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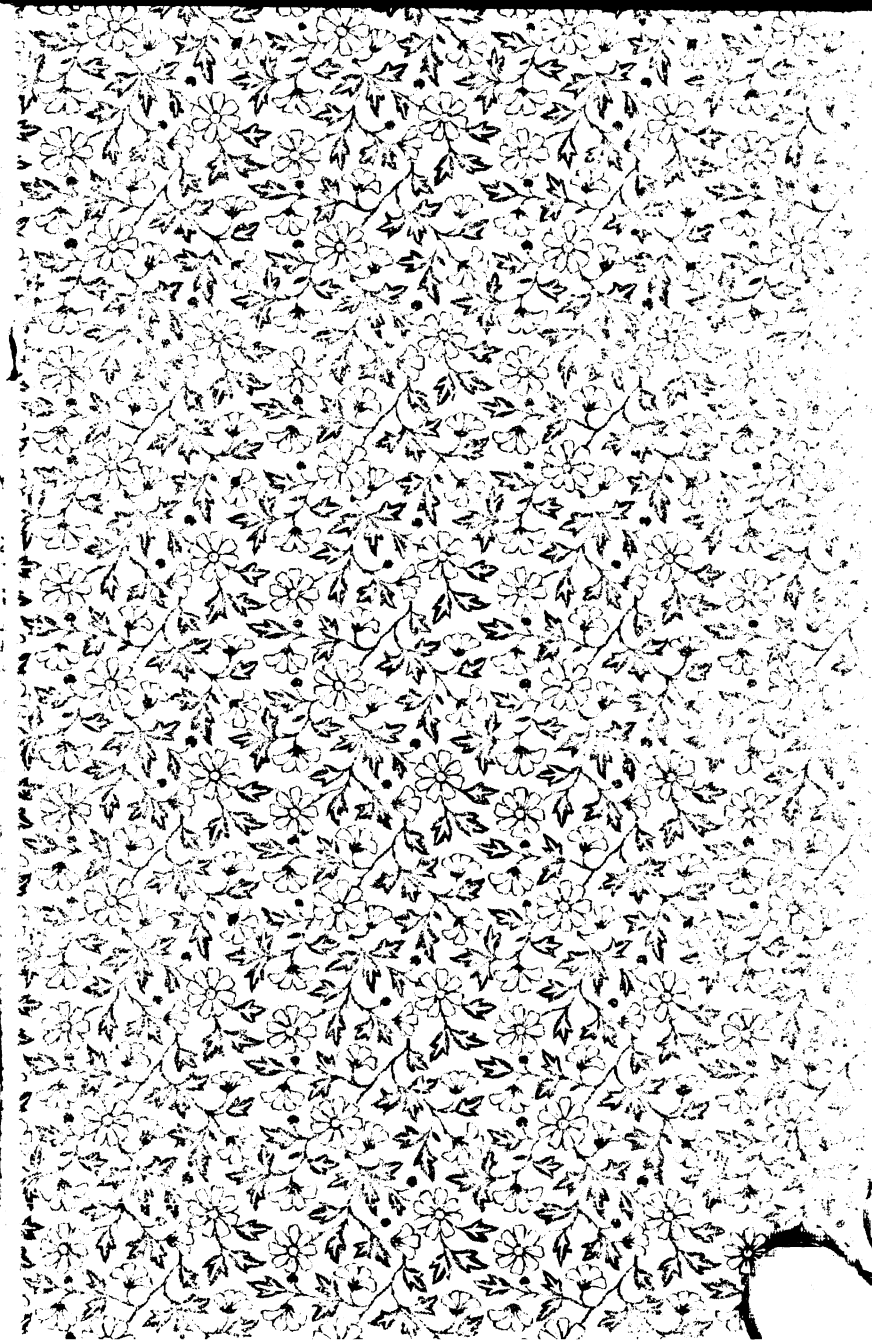
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THE NEPTUNIAN

OR

WATER THEORY

OF

CREATION.

BY

REV. J. M. WOODMAN,

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Author of "God in Nature and Revelation," "The Song of Cosmology,"
"Star Dates of Human History," "The Song of the Morning
Stars in Creation's Grand March."

*"If they speak not according to thy word it is because
there is no truth in them."*

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INTRODUCTION.

THE question as to what kind of reading shall yield us the most exquisite enjoyment, largely depends upon our ability for self-development. Taste in reading, as in eating, is often an educated faculty. The relish that we now have for many kinds of food, we had to acquire. We all have faculties for intellectual, moral and spiritual enjoyment, in lines of thought corresponding. These must be developed by use. Reader, you have the ability, if you will allow it to be developed, of enjoying a perusal of this sublime subject. Mere sensational reading like emotional religion has its field of enjoyment, its rills of happiness ; but it is changeable and uncertain. Songs of praise and devotional reading have a higher place in the human soul, lasting in their nature.

Observation and historical research open an-

other field of enjoyment. Language and location of places may become a passion in the mind. The study of causes in nature, at best but secondary, may hold the mind in a sweet revery of delight; but these are mere rills of comfort compared to an open sea, to the ability of reading and comprehending first causes, in the light of prophetic declarations.

We are thrilled in the presence of relics of ancient history. The sight of a mummy, known to be an ancient person of historic note thrills us with admiration and agreeable wonder, as in the case of Rameses II. Three thousand years seems a long time; yet it is easy to obtain almost anywhere a fossil, fish or shell, representing as many million of years. No where else are the "Footprints" of God so plain, measuring the long ages of time, as seen in the Bible.

The fact that you have not been accustomed to read on this subject is no reason why you should not begin at once, and experience the in-

creased reverence for God, the captivating engagement of thought, and the exquisite enjoyment of soul, as a result. Do you still ask what practical benefit will this knowledge be to you? Let us rather ask what harm will come from a general impression that the cosmological utterances of the Bible are so tangled up in a network of scientific suppositions, as to cause even good men to drop them, as parts of God's inspiration to man. Such results are already produced all over the land.

The Bible has been assailed on its cosmological sayings. Shall it be defended? If you are so fortunate as to be entrenched in the belief of the inspiration of the Scriptures, while you are unable to give a reason for the hope within, your friends may not be so fortunate. Your children, it may be, will return from school, intent upon showing you the discrepancies with the established teachings of science. If these things are, as they purport to be, given by inspi-

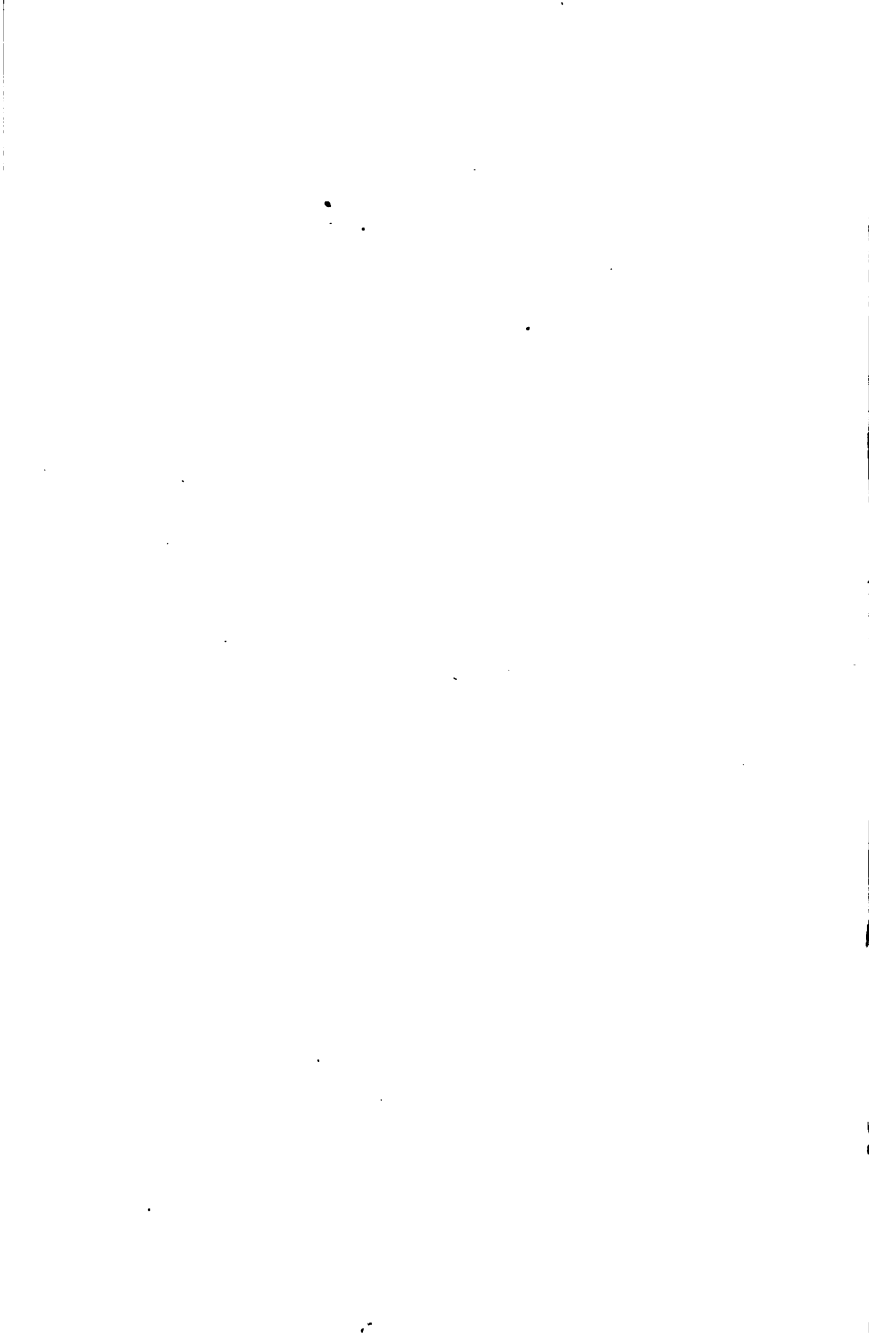
ration of God, they can never be made to harmonize with an illogical and untruthful cosmology. How important, then, that we should have the right theory.

The disciples of Jesus were asked, "Have any of the rulers of the Jews believed on him?" Perhaps before you purchase you ask, Have any men of scientific notoriety endorsed these views? Of the many scores of good words given by editors, lawyers, doctors, ministers, teachers, and professors in colleges, I have room only for a few. Prof. David Swing of Chicago said: "The Neptunian theory of creation, as presented in Dr. Woodman's book, is the most logical presentation of cosmology that I ever read. He writes in a calm and truthful style." The late Prof. Norton of the Cal. State Normal said: "You have chosen an opportune time for the presentation of your book, for the theories of cosmology are on the eve of a mighty revolution, in which the water theory is likely to come to the front."

Prof. Reid, President of the State University, said: "The subject, as you present it, is wonderfully in accordance with what we see in Nature; and it is still more wonderful that you should find it so beautifully set forth in the Bible."

Prof. LeConte, of the same University, said: "Your theory is a wide departure from everything hitherto written upon the subject. I will say this of it; it accounts for more unexplained phenomena than any theory before presented. I will give you this item, which I know to be correct. The Magnolia tree in the Tertiary period, grew and blossomed as far as 80 degrees north."

Numerous bodies of clergymen have endorsed the theory as a just and beautiful presentation of Scripture; many as the "only theory with which Moses' Genesis of Creation can be reconciled." The say-so of others may satisfy the indolent and careless, but to enjoy the subject you must read and digest these grand truths for yourself.





CHAPTER I.

THREE THEORIES REVIEWED IN THE LIGHT OF SCIENTIFIC FACTS.

IN the study of Nature, aided only by natural phenomena, effect, suggesting cause, is everywhere apparent. These effects variously compounded point with accuracy only to secondary causes. First causes are hidden far behind all existing appearances.

Unaided nature leaves man to seek first causes only by hypotheses. As might be expected, on the same subject scientists widely differ in theory. Such reasoning must ever leave a large margin for opinion.

Notwithstanding the uncertainty of all such modes of reasoning, still that hypothesis must ever possess the greatest weight, that best accords with the largest number of existing facts. Reasoning *a priori*, from the providing care of

nature's God, as seen in stores of coal, oil, iron, copper, and various kinds of precious metals, we might reasonably conclude that he who created the intellectual as well as the religious nature in man would carefully provide for the full gratification of both. Knowing God's nature, reason would suggest that what is wanting in nature must somewhere be supplied by special revelation of God.

The book of nature coupled with the Bible would be a necessity; not only for a complete worship, but for a full cosmology. We should expect the two volumes, when rightly rendered, to correspond. A noted atheistical lecturer upon cosmical changes stated in a series of lectures in Chico, Cal., that the "Bible theory of creation is decidedly watery. By the statements of this book, we should conclude that the center itself is one vast body of water, holding upon its bosom a crust of earth." As a believer in the Plutonic theory, and having no reverence for the Bible, he

added, "What fool does not know better?" What he gave as a "Bible Theory," we will assume as a scientific hypothesis; and rest the proof of the same upon the facts in nature which scientists, in advocating the Plutonic theory, have given us.

It will be the object of this chapter to show that the more recently developed facts in geology point unmistakably to the Neptunian theory of Creation. This will be done by comparing the three theories, and each with lines of facts which have been well established. It will be necessary

SECTION 1,
TO STATE THE PLUTONIC THEORY
OF THE SCHOOLS.

1. That all matter existed, or was created in a primeval state of heat. One hypothesis is, that all matter of our system was concentrated in one heated ball as a central sun.
2. That planets are portions of this matter,

thrown off by a rapid rotary motion of the sun. Properly named, this theory was the centro-centrifugal theory, now quite out of date. That this theory might be true, the sun must have turned upon its axis with a velocity sufficient not only to destroy gravitation at its surface, now twenty-seven times that of the Earth, but with a force capable of throwing Jupiter, fourteen hundred times the size of the Earth, out into space four hundred and seventy-five million of miles, and Neptune over two billion of miles. When we consider that our sun now turns on its axis only once in twenty-seven days, we conclude that a vivid imagination must have supplied the machinery necessary for such astounding results in the very face of forbidding facts. This theory made no provision for the encircling waters, sufficient to wrap the entire surface of the globe three miles deep, nor for the enveloping atmosphere. Gradually this ancient theory has been modulated into the Nebulous Theory.

3. The more popular teaching of today is, that matter existed in a highly heated state in the form of a diffused cloud. Steel, in his "Fourteen Weeks in Geology," suggests that "From unknown causes, this cloud-matter began to revolve about a center or sun. This nucleus drew matter direct to itself from all parts of our system. Other portions revolving were thrown off, and formed new centers for planetary gathering, as they respectively took up their orbicular march about the sun. This fiery mist is supposed to have come together in a heated state. The planets, at least, have since been cooling, though as yet having but a thin crust. To this theory of primeval heat, in some form, all our text books conform. A theory so long and so universally accepted might be supposed to have some solid facts upon which to rest. But really it has less to sustain it than had the Ptolemaic theory of Astronomy: that, at least, had observation in its favor, but this fails even here. It is a curious

circumstance in this guess work of results, that whether heat is made to increase on an average one degree in fifty feet, as given by many geologists, or one degree in one hundred feet, as given by others, precisely the same results are reached, viz., fifty miles crust, and intensely heated matter beyond. This assumption is based upon the supposed fact that the internal heat traverses the rock by conduction. If this were true, then the degree of heat gained in any one hundred feet of rock, as you descend into the Earth's crust, would be the approximate measurement of any other hundred feet in the same shaft; but the reverse of this is true. No two measurements seem to be alike. The miner, as a practical geologist, in this regard knows that this heat is generally caused by chemical action of the rock upon which you have let in air or water, or both. This heat is found to vary according to nature of the rock which you expose. If the rock is rich in pyrites of iron or lime, in any of its numerous forms,

then disintegration is abundant and much heat is generated ; but, on the other hand, where all disintegrating elements are wanting, there is no perceptible increase of heat.

4. The theory of the continued increase of heat, according to the ratio noticed as you sink a shaft a few hundred feet into the Earth's crust, if it proves anything proves too much, and is therefore false. Experiments extensively made in the Virginia mines of Nevada, and particularly in the Foreman Shaft, show the increase to be very uneven ; differing from one degree in twelve feet to one in two hundred feet. It even grows colder as you descend some kind of rock, a degree in one hundred feet. The degree of heat is always regulated and gauged by the rock you pass. If the rock will disintegrate readily, it gives out more heat ; but if the rock may lie exposed in the sun and rain without disintegration, it throws out no heat in the shaft. Yet from experiments made in the Foreman Shaft, notwith-

standing these varieties of rock, yet at the 2,100 foot level it is found that the average increase is one degree in twelve feet. At this rate, at twenty-five miles towards the center you would encounter heat above 4,300 deg. Fahr. Chemists will admit that, after due allowance for pressure at such a depth, yet the granite with all known substances would fuse at this heat. The Plutonic hypothesis makes the crust in Nevada less than twenty-five miles, perhaps the weakest on the continent.

Experiments in Mexico, upon this line of reasoning, would make the crust twice as thick. Now from a well established law in philosophy, a pressure upon liquid on the inside of a cylinder imparts its pressure to every part of the cylinder at the same time. A pressure capable of breaking the crust in any place should, at least, cause all the openings to emit lava at the same time. But this is not the historic action of volcanoes ; one emits while another sleeps.

It is a historic fact observed within the present

century, that a volcanic mountain rose up from a comparatively level plane in Mexico, in one night, to the height of 1,695 feet. On the assumption that lava comes from the center of the earth, why should not the above pressure have found the weaker crust, and Nevada have been the place of eruption instead of Mexico? and why should not the three hundred open vents of Earth have emitted lava at the same time? The theory will not bear philosophic tests.

The Russian report of the increase of heat is only one-fourth that given in Nevada. Who believes, therefore, that the crust there is four times as thick as in Nevada? The whole subject shows that the increase of heat in the shaft proves nothing as to the interior of Earth, and nothing as to the thickness of its crust.

5. To establish the Plutonic theory, it is at least necessary to demonstrate that the granite, which all hold to be the under rock, is the unstratified Plutonic foundation of all stratified rock.

Recent facts have demonstrated that the granite is a sedimentary rock, or rock deposited in water. This being admitted, although contradicting the teachings of all the older text books, some writers, among them is Steel, in order to harmonize the Plutonic theory with these stubborn facts, have assumed that the primitive granite, which by the theory must have been trap or lava, has all been worn away by disintegration of water and ice, or both ; and again, by water deposited as we now find it. But what was a white-hot globe of lava doing, while water and ice were tearing and grinding its lower crust to powdered sand? We have secondary granite, but its structure is very different from primitive granite. Besides containing hard pebbles and boulders of other stone, it is friable, and easily disintegrated under exposure. It is a bad theory that is driven to such unheard-of suppositions for its support. Nothing is more evident, if the granite is the under rock, and sedimentary, as represented and known to be, than

that the Plutonic theory is completely without foundation.

6. The modern theory of metamorphic rock, occasioned by internal heat, is also false. This theory maintains that the granite, slates, and marble existed so near to the great body of internal heat that they must have been metamorphosed. Facts demonstrate that these rocks, as a rule, were never in heat equal to 700 deg. Fahr. Such a heat will readily disintegrate any of these formations. Any one can demonstrate this by melting a little lead upon a piece of slate, marble, or granite. The furnace is found to be the best general test of the origin of rock. Lava, having been in a melted state, will not disintegrate up to the melting point, but, as a rule, will readily melt at the white heat. Granite, the slates, marble, and rock in general, of a sedimentary formation, will disintegrate at a comparatively low heat, but they will not melt, except with alkaloids, or flux, and then only at a very high degree of heat. This

test shows all the primitive rock, including injected seams, to have been formed in the sea, with no heat to change their structure since. There are a few exceptions to the rule of disintegration, as clay rock.

7. If the granite were not sedimentary, we could not account for the great quantity of sedimentary rock this side. Among the authors of our text books there seems to be a general vagueness concerning the origin of stratified rock, except in regard to coal, which all admit came out of the air. If we should assume that the granite was lava, but all the stratified rock since, until you reach the region of conglomerate, came from the air, how shall we account for the close similarity in appearance and structure of the gneiss and granite? Theory has piled thirty or forty miles of this sedimentary, stratified rock above the granite; whence did it come? Any openings in the granite would let up only lava. Whence the material for sediment? We shall, farther on,

show that all primitive rock, like the coal, came from the gases of the atmosphere once enveloping this globe.

8. Our best scientists now readily unite with the keen sighted miner in accounting for this increase of heat as you pass down the shaft, on entirely different principles from those stated in the text books. Prof. Joseph Le Conte says that "Chemical action of air and water upon the rock, as you descend into the Earth's crust, is undoubtedly the cause of the increase of heat." Again he says, "This heat is regulated and gauged by the constituents of the rock that you pass." Now admitting that the rock, as a rule, would show an average increase of heat down to the Carboniferous system, or even to the Devonian, yet there is rock enough beyond that contains so much less carbon, as to show such a decrease of heat that must more than counteract all the increase above. Whether we follow up the old hypothesis, with the laws regulating heat

by conduction or chemical action, the theory is utterly without foundation. The late Prof. Norton, of the California State Normal, said in a lecture at Pacific Grove, in 1883, "Every living geologist that I know of in the world will admit, for he *knows*, that the granite was a sedimentary rock." This sentiment of his speech being reported to Le Conte, he replied, "In this position Prof. Norton is undoubtedly right." It is thus seen that the Plutonic theory in our text books is at variance with modern experiments, and is proved to be utterly false.

9. Volcanoes and geysers were formerly supposed to settle the question in favor of the old theory. The phenomena of both are such as to strongly argue against it. Most geysers are known to be caused by chemical action of rock. We instance those in Hot Spring Valley, Cal., near Lassen Buttes. No one, having noticed the various colored mud-pots and mounds of pulpy rock thrown up by these boiling cauldrons, can

come to any other conclusion. A few geysers may be exceptions, having been caused by water trickling over heated rock in proximity to volcanoes. These prove nothing as to the center of the earth, until it can be established that this body of lava is in the center of the earth. A multitude of facts in connection with volcanic action demonstrate that lava does not proceed from a common center.

A few we will here give. (1.) Lava varies in color according to the color of the stratified rock found in the vicinity. Thus, between Reno and Wadsworth, Nevada, may be seen a red ledge of sedimentary rock. Close by are found quantities of red lava, being the same shade of red found in the sedimentary. Pieces of rock may be seen, one side showing the sedimentary strata, and the other partially melted. Lava everywhere, probably, is only sedimentary rock melted. (2.) Volcanic disturbances are local, which they could not be if they proceeded from a common center.

(3.) The existence of great quantities of ashes, so light as to float on the surface of water, argues the consumption of some burning material, as of coal. Nothing of this would exist in matter that had primarily been collected in liquid, and had ever been in a fused state. Something must have been burning to produce the ashes. (4.) The fact of all the great upheavals of plateaus and mountains having been this side the Carboniferous system of deposit, where the burning material, sufficient to produce volcanic effect, was extracted from the air and laid down as rock, argues in favor of a power much nearer than force, generated from a primeval sea of lava. Burning coal as a source of heat, and steam as a power, are ample to account for every volcanic disturbance, however it may have been modified by electric forces.

10. Most geologists are dissatisfied with the fire theory, and are looking about for a revolution in the teaching of the science. Professor

Norton said, "We are upon the eve of a perfect revolution in the science of geology." Agassiz said, "The Plutonic theory loses ground as soon as brought to scientific tests." Again he uttered with decided emphasis, "If the center of our earth were molten lava, as hot as represented, a crust of rock fifty miles thick would melt, and, in the space of a few hours, fall into the great sea."

A teacher of geology in one of our large colleges, who had just finished a lecture upon the Plutonic theory, said, "I have given that theory because it is the teaching of all our text-books; but I do not believe it. Many facts now coming to light show that the Water theory is destined to come to the front."

11. The fact that submarine volcanoes happen, without letting the ocean into the great sea of lava, shows that no such sea is there. But for the money and reputation invested in school books upon this defunct theory, it would have been, before this, consigned to the Plutonic hell of the

Greeks, from whence, it is more than probable, it originated.

12. Many admitted facts are utterly inconsistent with this theory. We will stop to notice but two.

(1.) It is a generally admitted fact, that the entire land portions of the explored earth, including Greenland to the 80th parallel, were either in a tropical or semi-tropical climate, from the beginning of sedimentary rock, up to and far into the so-called Alluvium deposit, and even to the historic age. "The climate of England was warmer than any now known on the earth." Sir Chas. Lyell stated, that the only exceptions breaking in upon this uniformly warm climate were temporary changes during the great glacial epochs. This uniform heat could not result from the present auxillary motion of the earth, nor with any good reason can we assert that the internal fires ever modulated the surface climate so much as one degree. Scientists are a unit in affirming that, for

the last four thousand years, there has been no perceptible influence from this cause, upon our climate. A rupture of the earth's crust, and a change of pole three thousand miles, and a complete change of pole-pointing, resulting in our present alternating seasons, has probably happened within the "historic age," and probably within five thousand years. This could not be upon the Plutonic basis. Our earth could not part, and swim off upon a globe of melted lava.

(2.) Diatoms are now known to have existed, coequal with the deposit of all stratified rock. This is a well verified fact, but utterly inconsistent with the Plutonic theory. Upon this theory, the early crust of Earth must have remained at a white heat. Water could not lie upon it at all. Hence, both deposits in water and animal life would be out of the question. The fact of both, to say nothing of the well established fact of the sedimentary nature of granite, must ever brand the theory as contradicting the plain facts of nature.

These facts equally refute the more modern notion of metamorphism of rock. The very waves of the sea unite in a chorus with the rocks, "The Plutonic foundations of the earth's crust exist only in the imagination of man."

SECTION 2.

WE WILL STATE THE NEPTUNIAN THEORY AS A HYPOTHESIS.

1. All matter was created at once, and is correlative.
2. In its primary condition it was in cold gas; diffused in equilibrium in that portion of space now occupied with systems: it follows that gravitation, heat, form, motion and power would in this state be wanting.
3. A power, outside of created matter, must transform this substance from the inertia of rest to that of motion. No sooner was a center of matter gathered, than gravitation acted upon all

parts of the universe. The centers of all systems must commence at the same time, or one system would tend to blend with another, and nature would be thrown out of equilibrium. The entire period of gathering must have been with relative exactness. It follows that, at the beginning of motion, all matter must be put in motion. Such gases as were destined to constitute the sun would move directly for it ; and such gases as were destined for globes would move in a circle around the center. Such order must have formed the poetic choir of suns, "When the morning stars sang together."

4. The shaping of systems, sending forth light, heat, gravitation and power, may well be called the first cosmological division of matter. This included the heavens, and prospective planets, as yet without form, and floating in a ring of chaotic gases.

5. At the close of this division, our sun had been gathered out of a field of space, extending

each way more than twenty trillion of miles. If these light gases had moved in a straight line at the rate of thirty miles per hour, it would take ninety million of our years to reach the center. Poetically speaking, there existed a condition of matter when force, light, gravitation, motion and form were sleeping in the inertia of rest. This was followed by a period of motion to and about a central sun. Geologically speaking, the earth, as yet, had no form. The matter that would form planets was all floating in a revolving ring about the sun.

The objective view of this ring, with reference to the gathered center, would be a solar firmament. The fluids above had not yet been separated from fluids below, hence the firmament was continuous. Earth, without form, was yet sleeping in chaos. It awoke in form when a second division of matter, with no measured duration as yet, had been accomplished.

6. A vast field of hydrogen united with its

equivalent of oxygen ; and, in super-heated steam, evolved out into space, and took shape as a globe. These divisions antedate geologic time. Geology must begin with sedimentary rock. The globe of steam must liquify and pass back to the ring, and through it toward the sun. In doing so, it took an atmosphere with it that shows the source of all our rock. When taking its true orbit about the sun, it was a vast globe of cold water, holding, by gravitation, a dense atmosphere in its embrace, rich in material for submarine rock. For a while the deposits were very rapid, and a great quantity of pulp of rock was formed, before any hardening took place. This accounts for the unstratified condition of granite. All the first rocks would be submarine, hidden deep in the sea. Nearly eighty miles depth of deposits took place before dry land could appear.

7. Contrasts marked the beginning and close of the first two divisions. If we follow this order in this third division, we must wait until

the Devonian forests showed the renewed touch of the creative hand, giving life in contrast to inorganic matter, with which the globe started into form, and took its position as a planet of our system. Such is the Neptunian theory in part, touching first causes in cosmology.

SECTION 3.

THE WELL ESTABLISHED FACT OF SCIENCE
LOOK TOWARD, AND DEFEND THIS THEORY.

1. In the relative quantities of sedimentary and lava rock. By far the greater portion of rock of all lands is sedimentary. Lava is the exception. If the source of supply is an internal sea, 7,880 miles in diameter, the reverse of this would most likely be true.

2. In the relative order of the two kinds of rock. Except in very restricted locations, sedimentary rock is at the bottom, in the middle, and at the top of the earth's crust. Lava has never



been found as an integral part of the supposed bottom rock.

3. The constituents of all rock indicate the water theory. All rock is known to be a combination of gases. The coal is admitted to have been gathered from the air, through the agency of vegetation. There are three ways gases may be combined into rock :

(1.) Through the agency of water alone. Such was the primitive granite ; and such are the modern stalactites.

(2.) Through the agency of diatoms living in the water. These creatures are absorbents. They absorb the minerals of the water, and form stone. Such are lime, chalk and coral.

(3.) They may be absorbed into vegetation, and then hidden away in the waters, until changed into coal.

(4.) Sandstone and conglomerate are formed from eroded material of other rocks.

(5.) The melting of sedimentary rock in prox-

imity to burning beds of coal has formed the lava.

(6.) Chimneys of rock crossing the lower strata, as of quartz and granite, are now known to be of water deposit. The word dyke is improperly applied to them. These circumstances all point to a center of water.

4. The question with many will arise, How can rock rest upon water? The answer is, Upon the principle of the compressibility of liquids. Water compresses a twentieth part in a thousand atmospheres. Thirty-three feet of water is equal to one atmosphere. Thirty-three thousand feet would compress one-twentieth part. We have a geometrical series, with a ratio of 1.05. In $79\frac{1}{2}$ miles we have twelve and three-fourths terms. The sum of the series will equal 19.127, calling 33,000 feet *one*, without compressibility. Now as the average rock, under salt water, weighs only one and a half times as much as water, we have to multiply twelve and three-fourths by one and a half to get its relative weight. This we find to be

19.125. At $79\frac{1}{2}$ miles in salt water, the weight of water equals rock of the same thickness. As rock displaces only its bulk of water, it will swim like an egg in strong lye at this depth.

5. The explorations which have been made of the Atlantic ocean go to sustain the Neptunian theory.

(1.) They think that they have established the fact that we had a connected land hemisphere, and a hemisphere of water. Lieutenant Maury made such extensive explorations of its contour and bed, as to well nigh demonstrate the above position. His report is, that the trough-like appearance of its bed, the corresponding walls on either side, being nearly perpendicular, showed that the continents were once together. On either side of the Atlantic the sounding line showed a gradual deepening of water for about two hundred miles from shore, when suddenly the depth became too great for measurement. This only confirms what Guizot wrote upon the same subject over fifty years ago.

In a small treatise he endeavored to prove that the continent showed a rent hemisphere of land, once altogether. That it had been rent asunder by some great convulsion of nature, and by water carried away from Africa and Europe, with which North and South America were formerly connected. His theory was, that continents and islands are but floating remnants of a once connected hemisphere.

(2.) Such a rupture could only be maintained on the hypothesis of a center of water. Should the earth open its crust, letting the ocean into its interior of melted lava, it would resemble a bomb.

6. We shall, therefore, assume that we had a land hemisphere, and that the north pole was in the center, and pointed directly to the sun throughout its entire orbit. This would involve the fact that the south half of the globe was in darkness, and locked in ice, as a great Antarctic sea.

(1.) We argue this from the widely extended

remains of the polyp-builders. This animalcule inhabits only warm waters. His remains are found widely distributed in every zone from the Lower Silurian up. Iowa and Minnesota show as nice coral in their strata as is now found in the torrid seas.

(2.) From the widely scattered remains of tropical shells. They conclusively show that a warm ocean once covered the continents. Sir Chas. Lyell mentions the tropical nature of the shells about England and Labrador, and that "They indicate a very warm climate, more uniformly warm than any now existing on the Earth."

(3.) From the remains of saurians; such as the ichthyosaurus, which, like the crocodile of the Ganges, is found only in warm waters. Darwin saw one in the bank of the La Plata. No land is without their remains.

(4.) From the widely spread coal beds of Earth. Nothing in geology is better established,

than that this is the product of tropical forests. All countries boast of their coal veins. Anthracite coal is often found in the frozen rocks of Greenland. A vein of the best coal, ten feet thick, was found in Nova Zembla, now covered with ice. Good coal is also found in the northern part of Alaska. A genial climate once covered these places.

(5.) From the remains of tropical animals. The evidence is conclusive, that gigantic elephants in countless herds once roamed the arctic regions of Siberia. His remains have been found in all lands, except the Scandinavian peninsula. The mastodon was his near neighbor, and his bones are generally found in the same regions. These animals depended on grass for subsistence. They could not endure a cold winter, nor live where snow lies on the ground for even a short time. We now find their remains where snow now lies from four to eight months in a year, and from two to twenty feet deep. From the

region of Russian Siberia alone, more than eighty thousand pounds of their ivory have been sold in a single year. Whence, then, this warm climate, so uniform and general? It cannot be accounted for on internal heat. Heat, sufficient to warm an arctic atmosphere, if coming from the ground, would destroy all animal life, either of water or land. Geologists agree that it has not been affected so much as one degree for the last four thousand years. But we have positive proof that these animals existed down to the period of human existence. They probably have not been exterminated five thousand years. Internal heat cuts no figure in their existence. Only one hypothesis accounts for these tropical phenomena, viz, a land hemisphere, with pole in the center, pointing directly to the sun.

(6.) The sudden change of climate in some past time argues a rapid change in the axillary motion of the earth, preceded by a general rupture of the earth's crust. It was so sudden, that

animals were locked up in arctic ice, and have been preserved to our day, with flesh entire. (See the word Mammoth, W. Dictionary.) The change of pole must have been very sudden, or animals, slain by the convulsion, would have decayed at once.

(7.) The widely spread tropical flowers and fruits sustain this theory. The palm tree flourished in Europe and Central Asia; also in the northern part of North America. The magnolia blossomed at least 80 degrees north. Sir Charles Lyell claims that the earlier vegetation was generally tropical. Grass evidently flourished in all lands, the year round.

7. The nature and condition of the early rock attest the water theory. Had the crust begun upon a ball of lava, at a white heat, the ocean, readily boiling, would be thrown into the air, where it would be condensed, and by gravitation thrown back upon the thin crust. This would often give way, and the whole vol-

ume would enter the interior and explode the entire crust into atoms. In such case we should expect to find the under rock a broken mass of displaced lava. But we find the granite to have been so calmly deposited in water, and it retains its place so well, that we split it with the rift of sugar pine. Geologists estimate the earth's crust from fifty to one hundred miles thick. Upon the Neptunian theory we at least have seventy-five miles without a particle of lava, or so much as the scratch of an iceberg. The early geologies spoke of dykes of lava, injected into granite. The furnace shows these to be water seams. No well attested lava has ever been found there.

8. The period of the great upheavals supports this theory. No grand mountains reared their lofty heads to the clouds, until this side the Carboniferous system of deposits. It is more probable that burning coal must have been the cause of the heat, and the expansion of steam

the power, that rent the Earth's crust; and the eighty miles pressure of waters suddenly liberated would bring up the granite, with all under rock, to the surface. Lava then proceeds from local deposits of melted rock, that had been stratified. If it came from a common center of a primary melted mass, there would be no occasion for ashes. The abundance of these ashes shows the consumption of some burning material, as of coal. The very witnesses which the Plutonic believers have placed upon the stand prove quite the reverse of their theory.

9. Facts show that the substance of all mountain chains was once deposited in the sea. Baron VonHumboldt remarked, "Upon the tallest mountains yet reached by the footsteps of man you may witness the ancient sea bottom." Conglomerate shells with sand, hardened into rock in the ancient seas, are now found in all lands thousands of feet above the sea.

10. The rise and depressions of the Earth's

crust are proofs of the water theory. Lands having large rivers, carrying more debris or silt into the ocean than the weight of her vegetation, decaying, are rising ; as has been demonstrated in North and South America, Europe, Asia and Africa. The terraces left attest the truth of this position.

Lands having more vegetation or ice than the weight of the debris carried into the sea are sinking. Witness Greenland and the Pacific Isles. But these islands could not well sink into a sea of burning lava, without letting in the surrounding ocean ; in which case the entire crust would be destroyed.

11. The crowning reason for believing in the Neptunian theory is found in the great glacial drift period. The Neptunian hypothesis of the poles of the Earth is sufficient to account for the ice that constituted the drift. The ancient equator would mark the bound between darkness and light ; and would be situated so as to

manufacture icebergs the whole length of this largest circle.

The depressions of the lowlands beneath the sea are accounted for in the great upheavals. On an average, rock weighed out of water is one and two-thirds times as much as when weighed under water. All the strata of mountains and plateaus lifted from beneath the waters weigh one and two-thirds times what they did before being disturbed.

Geologists tell us that the Earth's crust was depressed six to seven thousand feet. This would enable the ice to flow over the surface, the bergs being of enormous depth. The lowlands of every continent have been thus plowed. The evidence exists in every valley and far up the sides of all mountains. This evidence is by no means confined to scratches on the rock, but the water-washed gravel and polished pebbles equally attest its action. You can hardly sink a shaft in valley or hill without encountering

them. With the present inclination of the Earth's pole to the elliptic no such quantity of ice can possibly occur. No iceberg has ever yet been seen in tropical waters. There never yet has been enough at one time within historic note, to counteract the influence of the Gulf Stream about Norway and Iceland.

How different the ancient drift! Then the ice penetrated all open seas, caused by submergence. It plowed alike the Brazilian mountains, the Sierra Nevada, and the Appalachian. It chilled the seas to the very center of the submerged hemisphere; and England witnessed the dwelling of the reindeer in her borders, while it lasted. According to Sir Chas. Lyell, the temperature sank from the uniformity of our intensely warm climate to the chilliness of melting ice. The cold was now as uniform as the heat had before been constant. The north pole, pointing directly to the sun, would bring the whole land hemisphere within perpetual sunshine; and consequently, when above the sea,

would be in a tropical or semi-tropical zone to the very edge. This climate would continue as long as the land could hold back the ice, which had been accumulated at the equator. But no sooner did the lowlands become submerged, than the ice would change the climate, wherever it could in large quantities accumulate. As it plowed every river, plain, and gulch, the fauna, adapted to the former climate, would naturally lose their existence. Such is the history of the drift. Ninety-seven per cent. of all land animals died. By the slow process of disintegration of the mountains, the hemisphere was again raised, and its former beautiful climate restored.

SECTION 4.

HOW WAS SUCH A WORLD ADAPTED TO MAN OR STRICTLY SPEAKING, MAN TO SUCH A WORLD?

1. The even climate of such a world would tend to his longevity, and be most genial to his feelings.

Man's nature calls for an even climate. Now by art he tries to even up the climate of the year.

(1.) Less than two-thirds of the lighted hemisphere could have been covered with dry land. Many bodies of water are known to have been included within the areas of land. The pole, pointing directly toward the sun, must have been near Gibraltar. Allowing that land extended in every direction, four thousand miles or more, we should then have an open sea of from fifteen hundred to two thousand miles, intervening between the edge of the hemisphere of land, or perhaps more properly, the quartosphere of land, and the region of perpetual ice.

(2.) On the sunny side of such a globe, being at first entirely water, a rapid evaporation must have taken place; and most, nearest the north pole. This would give rise to currents, both of air and water, to flow toward it, as a source of supply. Counter currents of both would follow.

Currents of either starting near the equator would be cold and possess a motion greater than the earth, a few degrees toward the pole. This would send both towards the northeast, until meeting the return currents of wind, which would cause variable winds ; but a most genial climate must have surrounded the earth, at least forty degrees wide.

(3.) Such a climate, with such facilities for evaporation, would provide the way for perpetual harvest. The open sea to the edge must have been constantly filled with floating ice. Cold breezes, often laden with thick fog, would float in over the edge of the land. This may account for the long hair which covered the mammoth elephant of Siberia and California. No winds are more penetrating than those coming from large bodies of melting ice ; yet under a perpetual sunshine the vegetation must have been abundant.

2. We add by way of recapitulation :

(1.) That everywhere, and with each new discovery in science, the evidence is accumulating that our globe is essentially an immense ball of cold water, with a crust of earth covering the under waters as with a stone ; while a portion of water above is held in the earth's lap.

(2.) Until recently, the continents and islands were together in one vast body, with the axillary center pointing to the sun.

(3.) That fragments of the broken hemisphere have been spread out upon the seas, often standing with just their tops out of water as islands.

(4.) Inasmuch as this Earth is a magnet, the deposit about the pole was of the nature of a load-stone. This existed as a mountain, which by the force of the waters was bodily removed to the present north, nearly three thousand miles. It was thus we had a change of times and seasons.

(5.) That the alternation of day and night,

heat and cold, summer and winter, seed-time and harvest, are results following this great change in the Earth's polarity.

(6.) That the existence of the rainbow, caused by the declination of the sun toward the horizon in the Earth's present motion, is a reminder of what is, and will remain to be, in contrast to what was, and would have been, until the end of time, had no cause occurred making it necessary for this radical change.

Earth's climate was changed,

(a) By changing the magnetic currents of Earth, in removing the pole locally three thousand miles away.

(b) By withdrawing the attraction the former pole had for the sun, and pointing it to an empty place in the north, now one degree and a half from Polaris.

(c) By inclining the Earth's pole twenty-three and a half degrees to the ecliptic. "He changeth times and seasons."

CHAPTER II.

THE NEPTUNIAN THEORY OF CREATION WAS FIRST BROUGHT TO LIGHT IN THE BOOK OF JOB.

1. LIKE Homer, who dated his poem in the rising of the star Sirius, so Job dated his book in the Pleiades, while the sun was gaining his vernal equinox in the star Alcyone of this constellation. The Septuagint speaks of Job's age at the commencement of his trial as being one hundred years. By the closing statement appended to his book, we learn that he lived after his restoration one hundred and forty years. This makes his age two hundred and forty at his death. Alcyone marks by precession of the equinoxes 2100 years B. C. The great period of his longevity indicates a time antedating Abraham's day by more than two hundred years.

2. This book is an epi-dramatic Oratorio of human history. It is epic, in that it gives the history of a real life ; dramatic, in that it dramatizes human history, by the inspirations of these actors, with the religious intuitions of all ages. The poem as a whole shows the contending forces that develop character ; the struggle of man's redeemed nature against the tendencies of a series of degenerate ages, as far down as the full triumph of Christ's reign ; followed by the long prosperity that awaits the Church. It also sets forth the longings of the human intellect for a knowledge of first causes ; and its crowning success when Nature is studied in connection with the revelations of God's Word. The Book of Job was evidently the only Scripture that the world had for at least eight hundred years. The introduction shows Job to have been a person adapted to great reverses of fortune, rich, pious, prosperous, happy, and respected. Two spirits, either of which may take form, but neither being

dependent on form or locality, are present in their religious gatherings as they have ever been in ours. That objective figures come before our imaginations in reading this part of the poem, only shows the high character of the production.

3. The first question between God and Satan is that hackneyed one of all history, viz: Is piety a selfish ebullition of the human heart or a divinely planted principle? Satan takes the first statement, God the latter. Satan affirms that a sudden reverse of fortune will change the aspect of Job's piety, and he will then curse God to his face. Great principles are best tested by suffering. Nor is it necessary that every one should suffer in the same direction to show forth the same. The world is full of delegated suffering; the few for the many, and sometimes one for all. Job is the right man in wealth, station, influence, and habits of mind to personify piety in its relation to the world's progress.

4. The Orient is the place, and that period of

the world the time, for the rich figures of speech found in the two scenes of this unparalleled production. Of the two forces meeting us in life, inviting our attention and co-operation, one must and but one can, at the same time, receive our homage. The one inclines you to and gives you credit for all good; the other inclines you from and gives you no credit for any good. The princely man of the Orient is suddenly confronted with absolute bankruptcy and bereavement of all his children, without the chance of speaking the parting good-bye. Satan expected the question settled in his favor, by a sudden outburst of passion, in vindictive hate to God. But listen! "Naked came I out of my mother's womb (earth), and naked shall I return thither. The Lord gave, and the Lord hath taken away; blessed be the name of the Lord." The first scene is ended with Satan completely foiled. But, some one might say, the question only covered Job's outward prosperity. True, his wife is left to him, but she is a part of himself.

5. Again the sons of God are together in worship. Satan begs leave to amend his indictment against piety. "Touch his bone and his flesh and he will curse thee." Job is smitten in a manner calculated to break down his patience. The patience of his wife having become exhausted, she is influenced to give her vindictive advice in the line of Satan's desires, "Curse God, and die." "Thou speakest as a foolish woman. What! shall we receive good at the hand of God, and shall we not receive evil?"

6. The prologue of scene second ends with Satan confounded. The incoming circumstances show God's present proposition to be that true piety will not only endure, without tarnish, what Satan in his ill will has proposed, but it will survive and develop in strength in the ages to come, until it shall triumph over every foe. To refute all satanic charges to which history will give rise, God proposes to try it in this person, under the leading intuitions governing the masses of all

ages, past and to come. Three supposed but mistaken friends hear of Job's calamity, and resolve to condole his misery. These are ranked within the family of God's sons. These men are kings in their time, and are supposed to be entitled to a hearing. Their mistakes will make them really Job's enemies. Such are the coadjutors that Satan is about to have brought to his aid. They find Job in keen anguish of body, incapable of recognizing his friends.

7. These persons are all representative characters, whose intuitions will partake of the nature of the epochs of human history, through which the prophet Job is about to be taken. Job personifies piety; Eliphaz, reverence in tradition; Bildad, special Providence as a rule of action; Zophar, ignorance, the mother of devotion. Beginning with the fall of man, each epoch of human history is to stamp the prevailing religious intuitions of the masses upon these men.

8. Piety must be tried under all. Until the

enlightened age of the world is reached, piety will have little to cling to but faith in God, and that in the face of appearances. Such is the drama about to be enacted. Six grand epochs of historic time must be passed to reach even the present time. (1.) Deism of the antediluvian world. (2.) Special Providence as a rule of action following the flood, and out of which grew the building of the Tower of Babel. (3.) He was left alone through materialistic worship in idolatry, as in Abraham's time. (4.) He was confronted by a superstitious looking-behind, as in Persia's time. (5.) Tempted with an abnormal ambition, as in Alexander's time. (6.) He must be surrounded by the ruling necessities of commercial selfishness inaugurated by Rome, and transmitted by circumstantial links in the progress of civilization to our own time.

9. Human history in the drama starts in with a wail. Job, with the intuitions of a deist, bewails his very existence. As he looks to the fu-

ture there is not one ray of hope. "Thou (God) shalt search for me in the morning but I shall not be. He that goeth down to the grave shall come up no more."

Where now is that oft repeated declaration of Satan, that piety, at best, is only a selfish looking forward to rewards in the future? The piety of Job survives this terrible ordeal. The blinding intellectual fog of deism could not lose his point of compass.

Creeds may be good as sign-boards directing the traveler, but they go but a little ways in determining the action of the truly pious. As he approaches the flood he beholds the "numbering of man's days on the earth." And, as the reality bursts upon his vision, he experiences a perfect revolution of intuition. All is special Providence now.

10. The flood is passed in chapter eight, and "man's days become as a shadow." The law of God's natural Providence, in cause and effect,

is by Job and his friends completely ignored. His own condition will look him in the face with terrible effect, asking an explanation. To such an ordeal, with Bildad framing an enthusiastic argument upon the evidences of special Providence in the affliction, was Job brought. He can logically prove Job to be one of the worst of men. "Doth God pervert judgment?" To Job he saith, "If thou wast pure and upright, surely now he would awake for thee." Job with his intuitions cannot see why the argument is not sound. "I know it is so of a truth." To work thus upon the nerves of a sick man, who has been shut off from comprehensive views of God's general Providence in law, is well calculated to break him down in impatience toward God. But Job replies, "If I say I am perfect it shall also prove me perverse. Though I were perfect, yet would I not know my soul; neither is there any days-man betwixt us, that he should lay his hand upon us both." Zophar replied, "Know therefore

that God exacteth of thee less than thine iniquity deserveth." Job replied, "I could speak as you do if I were in your stead." "Though he slay me, yet will I trust in him." Job claims an honest integrity of purpose, though denying perfection in attainment.

10. For this noble stand he is rewarded on the spot with a prophetic view of what forms the first chapter in the "Little Book" of star-dates. Tracing time back by the precession of the equinoxes to where the sun crossed its spring equinox in Orion's belt, he saw the commencement of man. Tracing the same line forward to the end of our race, where indeed time ends, he saw that it rested in Ash or the Great Bear (margin) incorrectly translated Arcturus; new version, Great Bear.

Looking to the same kind of date of his own time, he saw the sun crossing the Pleiades. Looking at the full inauguration of Christ's Kingdom on earth, represented by the termina-

tion of Job's own sufferings, he saw the time measured in the Summer Solstitial colure going from under the Altar. "Thou madest Ash, Orion and the Pleiades, and the chambers of the south." Here commences the "Little Book," alluded to so often in prophecy, with four of the most important dates of history, but sealed upon the back part until the opening of the same by the "Lion of the Tribe of Judah" to his servant John. Here, perhaps all unconscious of their bearings on future history, he is picturing in the heavens, and dating by means of the precession of the equinoxes, the long periods, revolutions, changes and triumphs his sufferings were to take him, followed by the long prosperity of the Church of Christ in the latter day.

11. Representing the reign of universal idolatry, and consequent ignorance of the masses, and preceding the anxious inquiries concerning immortality by Confucius, Socrates and Plato, Zophar is prepared to fill in his part of the drama.

The question of the resurrection is discussed in the light of nature, in Chap. 14. He is compelled to leave it as an open question, only wishing that it might be true. "Oh that thou wouldst hide me in the grave, that thou wouldst appoint me a set time, and remember me." He nears the time of the general expectation of Messiah's appearance on earth.

He closes to allow Zophar, the representative of those Scribes and Pharisees in their tradition, to speak again. This is found in the fifteenth chapter.

12. From the sixteenth to the nineteenth, inclusive, Job personifies Christ. Hence these chapters are Messianic. "They have gaped upon me with their mouth, they have smitten me upon the cheek reproachfully. My days are extinct, the graves are ready for me. God hath delivered me to the ungodly, and turned me over into the hands of the wicked. Are there not mockers with me? For thou hast hid their

heart from understanding." Many of these sentences are quoted into the twenty-second psalm, recognized by all commentators to be Messianic. This Special Providence, as a rule to depend upon, watched Christ on the cross; it triumphed over the fact that God did not deliver him.

Here it is in prophecy: "The snare is laid for him in the ground. It shall devour the strength of his skin, even the firstborn of death, it shall devour his strength. His confidence shall be rooted out of his tabernacle. His remembrance shall perish from the earth. He shall be driven from light into darkness, and chased out of the world. He shall neither have son or nephew among his people." Isaiah, quoting the sentiment, asks, "Who shall declare his generation, for his life was taken from the earth?"

The Messianic voice is personified from the grave. The grave speaks the facts of history. "He hath put my brethren far from me, and my acquaintance are verily estranged from me. My

kinsfolks have failed, and my familiar friends have forgotten me. They whom I loved are turned against me. Why do you persecute me as God?" In the nineteenth chapter Job has reached the resurrection. How changed the voice! "Oh, that my words were now written! Oh, that they were printed in a book! That they were graven with an iron pen, and lead in the rock forever."

13. "For I know that my Redeemer liveth, and that he shall stand at the latter day upon the earth. And though after my skin worms destroy this body, yet in my flesh shall I see God." Ignorance is not satisfied with the report "that he is risen from the dead." "The triumph of the wicked is short. Though his excellency mount up to the heavens, yet he shall perish forever. He shall fly away as a dream." The days of apostolic teaching and suffering passed, Christianity debauched by a state religion, ignorance again put forth as a dying gasp, a few platitudes

in defense of God and against piety. Chap. 20. Job answered by referring man's conduct in life to a future judgment. Chap. 21. Reverence in tradition exhorted Piety to speedy repentance. Chaps. 23 and 24. Piety is searching directly for the true God.

14. Special Providence, ignoring law, boasteth of his secular strength. "Is there any numbers of his armies?" Here in the poem civilization reached the dawn of the Reformation. Chap. 26. It begins in the line of science. The rocks begin to speak. "Dead things are formed from under the waters." The orbicular motion and the present pole-pointing of the Earth, according to the Copernican system, is seen. "He stretcheth out the north over the empty place, and hangeth the Earth upon nothing." How exactly in accordance with the history of scientific reform, that this knowledge should begin in small fragments of truth. A glimpse of the ancient pole-pointing is seen. "He hath compassed the

waters with bounds, until the day and night come to an end ” ; or until the end of light begins with darkness. He saw the great “ change of times and seasons ” caused by the Noachian flood. “ He divideth the sea with his power, and by his understanding he smiteth through the proud. Lo these are parts of his ways ; but how little a portion is heard of him ! but the thunder of his power who can understand ? ”

15. Job enters upon the Reformation in science with a prophet’s view of the desperate efforts put forth, by scientists of our own period, to reach first causes by analytical deduction and hypothetical reasoning ; and this unaided by any light claiming to come by inspiration of God. His harp seemed attuned in the most exquisiteness of poetic finish, to that class of modern pretenders who talk of the fullness of nature’s laws, while they disbelieve in the existence of nature’s God. He opens the twenty-eighth chapter with certain admissions, as to points of knowledge

obtainable from phenomena of nature, followed by questions suggestive of the paucity of all things seen to unfold a true and full cosmology. "Surely there is a vein for the silver, and a place for gold where they fine it. Iron is taken out of the earth, and brass is molten out of the stone." Now beholding the futile efforts of Naturalists to reach first causes he exclaims, "There is a path which no fowl knoweth, and which the vulture's eye hath not seen. The lion's whelps have not trodden it, nor the fierce lion passed by it. He putteth forth his hand upon the rock; he overturneth the mountains by the roots. He cutteth out rivers among the rocks, and his eye sees every precious thing." This and more is freely conceded as yielding a grand field for geological thought. "But where shall wisdom be found? and where is the place of understanding? Man knoweth not the price thereof, neither is it found in the land of the living." Right here, beholding the observations through heaven-pointed lenses,

that man may read first causes in the stars, he gives the poetic reply of space. "The depth saith it is not in me." Now beholding the kindled expectations in the student of the seas, as he traces her currents, measures her waves and tides, and reaches her deepest deposits, the sea is made to report, "It is not with me." But may not wealth and position gain it from the schools? He answers: "It cannot be gotten for gold, neither shall silver be weighed for the price thereof. It cannot be valued with the gold of Ophir, with the precious onyx, or the sapphire. The gold and the crystal cannot equal it; and the exchange of it shall not be for jewels of fine gold. No mention shall be made of coral or of pearls; for the price of wisdom is above rubies. The topaz of Ethiopia shall not equal it, neither shall it be valued with pure gold."

Disappointed in reading first causes in all these resources man still inquires: "Whence then cometh wisdom, and where is the place of under-

standing? Seeing it is hidden from the eyes of all living, and kept close from the fowls of the air." Let now the dead fossil speak. May not the entombed life of forty millions of years open up this subject to man?

16. Destruction and death say, "We have heard the fame thereof with our ears. God understandeth the way thereof, and he knoweth the place thereof; for he looketh to the ends of the earth, and seeth under the whole heavens, to make the weight of the winds, and he weigheth the waters by measure. When he made a decree for the rain, and a way for the lightning of the thunder; then did he see it and declare it." But how shall man gain this true wisdom of causes? "He that cometh to God must believe that he is, and that he is a rewarder of them that diligently seek him." It is the voice of the Saviour, he who "walked in the garden." Men must be drawn toward God before they can see him in his word. "And unto man he said, Be-

hold the fear of the Lord, that is wisdom ; and to depart from evil is understanding." It cannot be doubted that more reverence for God, and less egotistical trust in self, would greatly aid the wisest thinker of the present day. We have had altogether too much of that feigned or real pity for the Bible, as unfortunate in its allusions to science, deserving to be ranked with the superstitions of the untutored masses of the unlettered ages. It is true that prophetic allusions to scientific subjects are usually poetic, but none the less specific and definite for this. These allusions embody a true objective view, leaving to science the task to subjectively work out the true condition of things presenting such phenomena. Thus prophecy poetized upon the "Place for light, and the home and house for darkness ; and the path leading to the bounds between them." Scientifically explained, one pole of the Earth must have pointed steadily to the sun, leaving half the globe in perpetual darkness.

17. Joshua is said to have commanded the sun and the moon to stand still, and they obeyed him. Subjectively rendered the sun went not down, during one night, which could have been objectively accomplished by a mirage. As this would answer the purpose for which the phenomena is reported, it is highly probable that this is all that is meant. Again, God made a firmament. But firmaments called heaven are not things made. Subjectively rendered, he made a globe, from which the visible expanse is seen. These figures of speech, and especially the one called metonymy, run all through prophetic sayings. The heart's willingness to accept the truth is often necessary to the intellect's perceiving it.

18. The Reformation has made some considerable progress, and Job's three mistaken friends begin to see their errors, and acknowledge themselves silenced. Job's renewed ability to speak, and the readiness with which he handles the subject of each passing event, shows that the

darkness is passing away, and the teachings of these dismal ages are being counteracted.

19. A far more formidable enemy, in the person of Elihu, is about to arise. He represents Secular Education, in unbelief of the inspiration of God, or the existence of true piety. He reasons that all men are essentially alike, imperfect; that heredity, inclination, education and surrounding circumstances account for all the difference in men. That Job, having claimed upright intentions before God, has committed a grave offence. His God is one of cause. "I will fetch my knowledge from afar: he that is perfect in knowledge is with thee. My lips shall utter knowledge clearly. All flesh shall perish together." What is this but infidel Deism? How different the expression of the wise man! "Who knoweth the spirit of man that goeth upward, and the spirit of the beast that goeth downward to the earth?" The one is mortal, the other immortal. For some cause Job is silent,

though again and again challenged to the combat. Let us apply a little history to the prophetic drama. French Atheists, in a convention in 1808, put forth eighty-three counts, any one of which was claimed sufficient to prove the Bible to be uninspired. Sir Charles Lyell, himself a Deist, wrote, "Of these counts, not one of them remains today. Science has laid them aside as untenable."

20. We have three distinct views of prayer, represented in Bildad, Elihu and Job. Bildad's view is, "If deserving, you can have all you ask for, without reference to law. All that you need is faith to perpetuate the line of miracles." Elihu's view was essentially expressed by the Professor who threw down the challenge, called the prayer gauge. Its substance was, "Prayer changes no effect following cause. It cannot mitigate the death rate in a hospital." Job's position is that prayer may be beneficial when in harmony with God's laws. There are three realms, viz, physics, mind and spirit. Mind is

higher than physics, and, within bounds, rules it; spirit is higher than either, and within bounds rules both: that prayer to God, ever subject to "Thy will be done, not mine," may increase the power of the spirit in man over the lower realms of law, thus securing wonderful help from God, according to his expressed will in law. This does not necessarily involve miracle in the answer God gives. It is in harmony with the law of the spirit, that God within the spirit greatly increases its power over mind and matter. This was the secret of Job's power over his contestants. This power Elihu denied. Secular Education will readily admit that God, by his direct power (which is Special Providence), created matter, again set it in motion, again gave life to portions of it, etc., and then deny that God would listen to the cry of his children for spiritual or material help. This modern Elihu has completely ignored the efforts of God to help the would-be scientists to phenomena and prin-

ciples, which would link his knowledge of nature in happy relation with first causes. Hence in the end, like Elihu, he is destined to be completely confounded.

21. Two thousand years ago, science established the Ptolemaic theory of Astronomy. It taught it for eighteen hundred years, when the Copernican theory forced its way to the front. And now, it is evident, the true theory was clearly taught in God's first book of Inspiration, called Scripture. A few years since, Elihu, as a learned professor, would take a piece of granite in his hand, and learnedly talk of the crystals formed, as it slowly cooled, as the first crust formed upon the sea of lava.

22. Now, the same professor talks to his class of the sedimentary nature of the rock, and the crystals formed under great pressure in the deep sea. Four thousand years ago, the Bible gave this knowledge to the world. For some cause, Job is reticent while Elihu speaks. He speaks

as a "beast of power, rising up out of the earth." But God has something to say as to who shall stand in the coming ages. Piety will stand up, and God will answer as by the power of the whirlwind. Chap. 38. "Gird up now thy loins like a man, for I will demand of thee, and answer thou me. Where wast thou when I laid the foundations of the earth? Declare, if thou hast understanding. Who hath laid the measures thereof, if thou knowest, or who hath stretched the line upon it? Whereupon are the foundations thereof fastened, or who laid the cornerstone thereof?" Marginal reading "made the cornerstone to sink." Balancing order, in exact equipoise, is proclaimed in science. "Not one star could be spared," say the Solons of Philosophy, "without throwing all into the greatest confusion." The balancing of the primary gases, as each sun gathered in the beginning, was seen by Job. "When the morning stars sang together, and all the sons of God shouted for joy."

23. The great under-waters were once imprisoned as though shut behind doors. "Or who shut up the sea with doors when it brake forth as if it had issued out of the womb?" Rotundity of the Earth is here given with the inside water. He saw the young Earth first "clothed in a garment of clouds," and "thick darkness a swaddling band about it." He saw the "foundations of the earth breaking up," as the flood in Noah's day poured in over the earth. "And brake up the decreed place for it," and set new "bars and doors." A change of polarity, and when it took place, is seen. "Hast thou commanded the morning since thy days, and caused the day-spring to know his place, that it might take hold of the ends of the earth, that the wicked might be shaken out of it?" When have the wicked been shaken out of it, but when "all the fountains of the great deep were broken up?" The finishing touch is added to the Copernican system. "It is turned as clay to the

seal." Allusion is made to the clay on the potter's wheel rotating to a fixed seal shaping the same. In contrast to its present motion, he saw a former condition with pole pointing to the sun. This was a motion that never exchanged the darkness for light, nor light for darkness, but both remained stationary. "Where is the way where light dwelleth? and as for darkness, where is the place thereof, that thou shouldst take it to the bound thereof, and that thou shouldst know the paths to the house thereof?" He saw the contrasted appearance of the former earth to her present contour. "The waters are hid as with a stone." Altogether, the land hemisphere covered the under-waters; "and the face of the deep is frozen." The face of the deep in the southern hemisphere of the ancient earth was locked in darkness and perpetual ice. He had asked the question, "Out of whose womb came the ice?" Where was it born? This is one of the most perplexing questions in science.

24. Where was the ice born that once plowed such deep furrows over hill and dale, that climbed the rugged mountain, and filled ancient river beds with three thousand feet of drift? In vain do you ask where the ice came from that scooped out the Yosemite Valley, or laid the deep beds of water-washed pebbles along the Sierra Nevada mountains. God has answered it in giving the ancient polarity, by which the mighty deep of one half the globe was covered with ice. Again, "Who hath divided a water-course for the overflowing of waters, or a way for the lightning of the thunder?" Our earth is a magnet. The way of the lightning produces spiral effects on plants and cyclones from the equator to each pole. The earth being divided, forming the Atlantic Ocean, and the pole being locally changed on the globe, a new way for the lightning is formed. This poem is wonderful for its flights of prophetic views. The vision, from comprehending the phenomena attending the

globe in its antediluvian state, now changes to a mode of communication by telegraph of our own time. To identify the century in which it would appear, he resorted to the third clock of the heavens, measured by precession. He noticed that beautiful cluster of stars called the Pleiades at the usual time of Zenith measurement, in the evening, standing over the January thaw, followed in a few days with Orion's belt in the same place. At the time of Job's captivity the Pleiades rose to the Zenith on the 10th day of November. By the slow action of precession they have moved eastward, until now they come to the Zenith on the second day of January. Only eighteen days elapse before Orion's belt stands in the Zenith to look down on sealed rivers, as the thaw is over.

25. "Canst thou bind the sweet influences of the Pleiades, or loose the bands of Orion?" The time in this poetic allusion is our present century. The phenomena seen is employing lightning as a

messenger. "Canst thou send lightnings that they may go, and say unto thee, Here we are?" Proceeding to give the habits and instincts of a few representative animals in natural history, Job proposed to sit down and say no more.

26. But God proposed to gird him for the description of two representative fossil animals of the Middle and Tertiary ages. For the ruling king of saurians, he described *Ichthyosaurus* under the title of Leviathan. For the king of the Myocene period he described the *Megathereum* under the title of Behemoth. God opens the understanding of Job's three mistaken friends, and makes demands for repentance and reparation. Job becomes their intercessor. The captivity of Piety ends here. The "times of the gentiles are fulfilled." "The sanctuary is cleansed." "Babylon is fallen." "The white horse appears, and Jesus reigns King of kings and Lord of lords."

27. Now commences the grandest era of Job's

life. It is double in prosperity to all going before. The time for its continuance is very long. The universal respect that will be shown the church, the voluntary contributions in liberal free-will offerings, the abundance of peace and prosperity, are well diagrammed and set forth in the closing events of Job's life.

Elihu will still talk of the "Twilight of Christianity," but faith is looking for the dawn of Christ's triumph, when the dragon, "like lightning," must "fall from the heavens," and nations will hail with joy the reign of righteousness.

"Lift up your heads, O ye gates; and be ye lifted up ye everlasting doors; and the King of glory shall come in.

"Who is this King of glory? The Lord, strong and mighty, the Lord mighty in battle. The Lord of hosts; he is the King of glory."

CHAPTER III.

ALL THE SCRIPTURE REFERENCES TO COS- MOLOGY ARE IN HARMONY WITH THE BOOK OF JOB.

1. Peter must have understood the import of this divine poem, when he wrote, "For this they are willingly ignorant of, that by the word of God the heavens were of old, and the earth standing out of the water and in the water." So also "The earth, that then was, being overflowed."

2. So Solomon understood the poem. Personifying the eternity of wisdom, under things timely, he wrote, "Before the mountains were settled, before the hills were brought forth." Notice the sedimentary character of the mountains! "While as yet he had not made the earth (in form). When he prepared the heavens,

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I was there ; when he set a compass (circle) upon the face of the depth (space).”

3. The spirit of this poem must have inspired the Psalmist, when he ascribed thanks unto “Him who stretcheth out the earth above the waters.” And again, “He hath founded it upon the seas, and established it upon the floods.”

4. Moses must have possessed this sublime poem in the wilderness. By an easy succession of steps, he could find his way back to where suns, in gathering, kept time to the marching forces of Jehovah, as a well trained choir. “When the morning stars sang together.” Not content here, he sought farther aid of God, and swung out into the voids of space, where heat, light, force, and gravitation slept in the embrace of chaos ; yea, still farther back to when and where matter was not. He heard God speak matter into existence. It was from this vision he wrote, “In the beginning God created the heaven and the earth.” As it came from the hand of

God, "It was without form, and darkness was upon the face of the deep."

Matter without form is in gas; and to be in equilibrium, it must be equally diffused in all that portion of space now containing matter. Inertia would incapacitate its moving. Without motion, light was impossible; without centers, gravitation had not commenced. Such was matter in the darkness of chaos without form, called night. A force from without must overcome inertia, and give birth to form, light, heat, gravitation, and power at the same time. This power is brought to our view in the following sublime sentence: "And the Spirit of the Lord moved upon the face of the waters" (fluids). Gravitation acts instantaneously throughout space. Therefore the gathering of any one center as a sun, would necessitate the gathering of every central sun in relative accord.

5. Gravitating centers account for centripetal motion only. Acted upon by gravitation alone,

all matter within each system would start for the center direct. Hence, centrifugal force also must have been imparted to all that portion of gaseous chaos, destined to become planets. With these two forces acting upon them, they would naturally assume the shape of an immense ring about the sun. Those gases destined to make our sun, must have traversed a space of not less than twenty trillion of miles; possibly, in some directions thirty trillion of miles. The center would be small at first; and should these gases float thirty miles per hour, it would take ninety million of our years to gather the sun complete. In such condition, from the voids of space Moses beheld our system, and noticed that the "waters above the firmament were not separated from the waters beneath." If from a tall mountain we behold a rainbow, when the sun is quite low we shall see a complete circle of prismatic colors. If one should report that the colors above the firmament were not separate from the colors beneath the

firmament, we should readily understand that the bow was continuous as a circle. Now imagine these colors tangible gases, and a sun placed in the center, and you have some faint conception of the grand objective view of the prophet, as he beheld the first morning of creation. The condition in darkness, unmeasured by time, he had called night. The condition in light, unmeasured by flight of years, he called morning. "And the evening and the morning were day first." The vision, from contemplating matter as divided into systems, now changes to prospective Earth, as yet without form. If the lack of form constituted its evening, then, when it gains a form, it will be its morning. The gases that were to form earth, then lay diffused in the firmament ring.

6. A spark would unite a field of Hydrogen and Oxygen, and cause a division in the ring, as a new element much lighter, formed in space in the condition of superheated steam. Its lightness

would cause it to evolve outside the ring, and take the form of a globe. "And God made the firmament," and he called it "heaven," which is the visible expanse of a half circle or sphere above our heads; "and he divided the waters which were under the firmament, (the first, which was a tangible circle) from the waters which were above the firmament." The Earth is in form, but has, as yet, but two gases; and these unite in steam. The second day of creation ends without a "footprint" for the unassisted geologists to trace. Well may Job refer man to the voice of the Lord for the wisdom of first cause and the early changes of matter. This newly formed firmament, or visible expanse, which, by figure of metonymy means a newly formed globe, differs materially from the ring substance of the sun, which gave rise to the term firmament. This second firmament is not made of tangible gases, nor is its appearance to dwellers on the earth continuous. Hence, the making of this firmament is

the objective description of the formation of our Earth as a globe. With a world of steam in globe form, the second age or day of creation ended. The matter, that gathered would constitute Earth, while floating in chaos was called evening. When the globe took its form, though only a world of steam, it was called morning. "And the evening and the morning were the second day." No measurement of twenty-four hour days had commenced yet. Having followed our globe out into space, the prophet now confines his observations to this single planet. He beholds the outside liquifying, and he follows it into its present orbit. He made no mention of the "swaddling band," it took out of the ring as it passed back toward the sun. This had been well noticed by Job, as well as the manner of the first deposits. But he noticed the appearance of dry land; and the introduction of terrestrial vegetation, and described them as cryptogam "having the seed in itself." He had followed

the gathering together of the waters as a grand sea, and the inorganic deposits as a long evening; and now, to bring out a grand contrast, as morning, he waited until the forests sung the praises of God's creative hand in bestowing life. "And the evening and the morning were the third day." But this vegetation grows in the veiled light, much as the gray of twilight. This twilight is the evening of the fourth day. Contrasting with it is pure sunlight. The Carboniferous age of the world cleared the air of these deadly gases, and let in the sunshine upon the earth. This was morning. In noticing this, he is reminded that this globe is occupying his entire attention; and yet God made all the planets and suns of the heavens. So the source of light is again noticed and its proper name given to it, and the relation it sustains to our own time noticed and recorded, "The sun to give light by day." In a similar manner the moon and the stars were all noticed. As vegetation had now arrived at its climax,

Moses closed this age, making the cryptogam in the gray twilight the evening, and its contrast the gay flower basking in clear sunlight the morning. "And the evening and the morning were the fourth day."

7. Gases are combined into rock through the agency of air and water. There are three methods of conveying or changing gas into rock. The first is by gases mingling directly with the water. This gave us the larger portion of sedimentary rock. For aught that science has yet discovered, the entire bed of primary granite was made in this manner. The second is by combining the gases by means of diatoms and polyps of the seas. These animals do not depend upon vegetation, but draw their nourishment directly from the waters. Their remains constitute large portions of sedimentary rock. The marble and chalk are formed almost entirely of their remains, while all sedimentary rock this side the granite contains more or less of their remains. A third way

is by gases combining in vegetation. Anthracite coal is ninety-six per cent. carbon, combined through vegetation.

8. It is evident that the days of creation were not given to mark an order of time. (1.) Creation commenced before time. (2.) Without motion there could be no measure of duration. (3.) The fifth day includes all the fourth and part of the third; and could therefore be no order of time.

9. They were not designed to mark an order in the deposit of rock. All stratified rock, from the Gneiss to the Myocene deposit, is included in the fifth day. They do not, therefore, give a progressive order of deposit.

10. They were designed to give two mornings of inorganic changes of matter, with two contrasting evenings; two organic changes, as mornings of vegetation, with contrasting evenings; two organic changes, as mornings of animals, with contrasting evenings. These days are

all spoken of as noting a beginning, a middle, and a close. The beginning and close are contrasts. This mode of measurement may have been derived from Job 9: 9—"Which maketh the Bear, Orion, and Pleiades." Here is Orion, marking the colure line of the Spring equinox at the creation of man; the Bear, marking the same Spring equinox at the end of time; and Pleiades, marking the date at which these visions came to the prophet. Thus we have the beginning and ending of the human race in contrast, and a middle date of passing events. Thus, with Moses the vision of creation opens with the creation of all matter, and the first day ends with the morning of light. The inertia of rest in chaos intervened. The Earth, without form, and the Earth, in form, is contrasted, the second day, with a separated firmament of the sun intervening. In the third day, we have evening commencing with two gases in the form of a steam globe, contrasted with the waving forests of the

Devonian age of geology, with the millions of years of deposits of inorganic substance intervening. The language explaining the fourth day seems to be about the sun, moon, and stars. But that these might shine in on the Earth, there was involved the idea of removing the Earth's "swaddling band," alluded to by Job. Hence the language involves an evening of twilight in which Cryptogams, as the beginning of Earth's vegetation, would contrast with the flowers basking in clear sun light, while the slow process of how God caused the sun to shine in on the Earth, by working this dark band of gases into its crust, intervened. Nowhere is this rule seen so clearly as in the language pertaining to the fifth day, Here, the infusoria of the sea is made to contrast with the whale ; while birds intervene. These diatoms began in the deposit of the Gneiss rock. The whale is found in the Myocene and since. The solitary reign of beasts is noted as evening, contrasting with the reign of God's people as

• “priests and kings unto God,” at the close of time. Intervening are the events of human history. Thus, every day of the six is shown by contrasts.

11. A general providence runs in law, evolving progress as far as Nature's law is adapted; but when Nature fails to meet any new want, special providence steps in, with additional forces to supply the deficiency. Space was an empty nakedness, and God created matter therein. Matter was without form and void, and God started it in motion. Matter was without life, and God created the life. The beasts of the field were without a moral spirit. And God made man in his own image, blessed with immortality, and capable of attaining to eternal life. For farther particulars, see Sec. 4.

CHAPTER IV.

THE PHENOMENA TO WHICH ALLUSIONS ARE SO FREELY MADE IN THE "SIX DAYS OF MOSES," SUGGEST CERTAIN SCIENTIFIC NECESSITIES, REplete WITH GEOLOGICAL INFORMATION, WHICH DEMONSTRATE THE PROGRESSIVE WORK OF GOD, FOR MATTER, IN MATTER, BY AND THROUGH MATTER, AND ABOVE MATTER, TO THE END OF TIME.

TWO books give a revelation of God, Nature and the Bible. Except for purposes of intelligent connection, as a rule, the revelations of one are not repeated in the other. Revelation on the subject of cosmos is evidently intended to supply parts, which nature is not adapted to unfold. Each stands as a part of a great whole; that the true student of nature may be thoroughly furnished with proper text books, which, when rightly understood, are conjointly harmonious,

connected, and exhaustive. If man would attain even the faintest ability to measure the "footprints of God" in nature, or fathom the relation of first causes in creation, he can ill afford unacquaintance with either book. The Bible is given as a supplement to God's voice in nature. Creation, shown in harmony with the testimony of the rocks, confirms the testimony of Moses. The unsupported hypotheses of men have led some to deplore the "mistakes of Moses." A better acquaintance with both books will lead them, it is thought, at least to respect his great prophetic knowledge, in outlining creation's origin and forces.

SECTION 1.

THE WORK OF THE FIRST DAY.

1. The account, given in Genesis, of creation is in the form of an Epic Poem. As a treatise on any subject, it would be incomplete. Its de-

sign seems to be to give, in the form of poetic suggestions, the connecting links to unite creation with creation's God. For such a purpose, it is the grandest and most complete of all productions of the pen. Six of these days are marked by contrasts, "called evening and morning" but the seventh is peculiar, having neither. The sixth is said to close God's labor with matter. Unmeasured duration is, doubtless, the seventh.

2. The "deep," when used in reference to the heavens, means immensity of space; as: "darkness was upon the face of the deep." Darkness is the normal state of space. Not dependent on matter, it is eternal. Moses saw all matter created at once. God's work, as revealed here for matter, is in harmony with correlation of matter in science.

3. By a beautiful figure of metonymy, poets speak of a part implying the whole. Such is the word "Earth," as first introduced in this produc-



tion. "And the earth (all matter) was without form." Inertia holds all in rest. An act, fiat, or work of God, above matter, is requisite, to set it in motion. "And the Spirit of the Lord moved upon the face of the deep." A system formed with a center of light is noted. All systems are members of this choir.

4. Science would suggest, that, if a ponderous globe, as our sun, should gather in a field of gases, though trillions of miles in diameter, all gases, within its drawing sphere, must either go toward the sun, or be thrown around it in a circle. Such was the ring of waters, or fluids, first called a firmament. A most minute directing of Providence is here suggested. It extended to each molecule of gas, and its appropriate place was determined. Before that grand movement of the Spirit of God, there was nothing with which to measure duration, and time had not commenced. No centers—no gravitation. No motion—no light or force. All this is sug-

gested in matter "without form." Suns only had form at the close of the first day. As systems revolved, measured duration might have commenced at the revolutions of suns about a grand center. One day at the sun would be twenty-seven of ours; one year, eighteen thousand of ours. This first day of creation may have been one hundred million of years. It included the length of these contrasts to a climax, darkness—light. The one reigning over all matter, the other forming from matter, under the direction of God.

5. If the first is a literal day, so are the seven. If the first is poetic, so are the seven. That the first was not literal, is evident in that the "Earth was without form" as yet. Hence there was no twenty-four hour measurement. Day is also used to signify a nation's history. It is not that. It is also used to signify the life of an individual. It could not be that. "A day with the Lord is as a thousand years." It is evident that

Peter was merely hinting at the indefiniteness, as to time, of the Mosaic days. It remains, then, that it is a cosmological day, without exact measurement of time. It certainly includes all that period of chaotic darkness before time commenced. Should these gases move across the radii of our system with the speed of light, it would take thirty-five days; but should the gases move like an atmosphere in space, it would take more than ninety million of years to gather the sun. The greater probability is that these contrasted conditions of the first day, poetically described without any exact measurement, if measured, would extend through more than one hundred million of our years.

SECTION 2.

THE WORK OF THE SECOND DAY.

1. CREATION includes not only the bringing into existence of matter, but all its undeveloped

forces and changes. Revelation, upon this subject, is suggestive, rather than exhaustive, of what we need above what Nature shows, to trace creation back to God. The greatest difficulty in reading this poem understandingly, is in rightly rendering the phenomena noticed upon the second day. Figures of metonymy abound. As a rule, figures once used in prophecy are not changed when used by another prophet. Hence, we may derive benefit by seeing how other prophets have used them. Job had made the gathering of suns at the creation of light a morning in figure. Moses is about to use the same figure, and beholding the darkness of chaos preceding, he extended the figure to an evening preceding. This is the only day that pertains to light and darkness. The second day will be analogous in contrast. Whatever be the one, the other will contrast. The evening of Earth is given. "And the Earth was without form." The contrast will be the Earth in form, for morning.

2. To read these allusions understandingly, every sentence must be cosmologically analyzed in the light of our present knowledge of astronomy, chemistry, philosophy, geology, and rhetoric. There is a grand suggestion of progress, couched in the figure of morning succeeding evening. The morning of each day is a complete contrast to its own evening ; and yet the morning of that day is only the evening of the day following. The morning of the sun, with hosts of God's angels rejoicing, is only the evening of the prospective globe, upon whose disk shall be perfected, in knowledge and true holiness, beings in God's own image. The sun has perfected his day, in which Moses beholds the evening of the second.

3. He is looking at our system, as from the voids of space, as a whole ; with its gathered sun and its immense ring of prospective planets. It is now shown him that a change is to take place in the ring, which will result in the form of a globe. To that part of the ring he draws near. The

first phenomenon noticed was a separation in the ring between the "waters above, and those below." The gases thus uniting in one substance, soon left this firmament ring of the sun, and had a firmament of its own, called heaven, or visible expanse. The Hebrew word translated "firmament" implies something tangible, and yet it was used to denote the visible expanse.

4. The first firmament was composed of tangible gases or waters, so called; the second is the expanse of heaven. The cause of the separated waters is seen in what follows. These fluids that evolved out, leaving the ring separated, are now in a condition that they only have to be gathered together into one place to be a sea. It was then steam. The suggestion is that an immense field of oxygen and hydrogen had united by the spark which separated the ring, and as the union was superheated steam, it evolved out into the voids of space as a globe. It is plain then "And God made a firmament in

the midst of the waters," means he made a globe, from which the visible expanse is seen. The vision now places the prophet upon this globe, the changes of which will occupy his attention to the end.

5. Whether any or all the planets were formed at the same time, we are not told. No allusion is made to them except an incidental one, on the fourth day, so that all things should be traced back to God as their Maker. If the union of two gases took out a segment of the ring, leaving it "separated," it would only be temporary, as the ring would close up again. Whether our planet was the first, third, or last formed, no mention is made. The vision is designed henceforth to unfold what we need to know of Earth, not found in nature. Our globe in chaos of gases, sweeping around the sun in the form of a ring, is evening, being "without form." Our globe in steam, having a firmament of its own, is in shape, and this is "morn-

ing." Solomon must have given such an interpretation to the account of the second day. Prov. 8 : 27. Tracing the unmeasured age of wisdom, "Before the mountains were settled, before the hills, while as yet he had not made the Earth, when he prepared the heavens, I was there; when he set a compass (or circle) upon the face of the depth." A globe of steam, possibly highly charged with electricity, revolving in an orbit outside the ring of planetary gases, was all that constituted Earth at this time. "And the evening and the morning were the second day."

SECTION 3.

THE WORK OF THE THIRD DAY.

1. A GLOBE of vapor in contact with the cold voids of space must condense or liquify. The beginning would be upon the outside; constantly growing heavier according to bulk, it would work its way nearer to the sun. Having be-

come a center of attraction, and coming back to the now closed-up ring, it would claim a portion of the same as an atmosphere. Increasing now its centrifugal force, it gained an orbit inside the ring, still drawing nearer the sun. Job's attention had been called to the earth's appearance in this "gathering" process. "When I made the cloud the garment thereof, and thick darkness a swaddling band for it." Moses began the third day as the globe began to condense. "And he gathered the waters together into one place; and he called the gathering together of the waters, seas." While the globe was in a condition of vapor, the waters were firmament waters; and the word firmament answered very well for both globe and visible expanse. Hence, "God made a firmament" by figure; covered both. But as soon as gathered, there was a distinction. Now only the expanse, holding yet a cloudy vapor, could be called firmament, or heaven; and the gathered waters he called seas.

2. Science claims that the present pointing of the pole of the Earth, and its inclination to the ecliptic, could not produce such a warm climate as the Earth once enjoyed. This fact, in connection with the Earth covered with ice, at a remote period of the past, confounds the mere seeker of cause in nature's laws. The ancient pole-pointing is sung by Job. According to his description of light and darkness, one pole of the Earth must have pointed directly to the sun throughout the year. And as that warm climate was uniform, it must have turned on its axis not only daily, but as does our moon in reference to Earth, once over in its entire orbicular journey. Its enlightened hemisphere was never in darkness; its dark hemisphere was never in light. According to Job's statement, both light and darkness were stationary. "Where is the place where light dwelleth? And as for darkness, where is the place thereof, that thou shouldst take it to the bound thereof, and that thou

shouldst know the paths to the house thereof?" All our deposits then hung as gases in the air; one-half of which science proclaims to have been oxygen. In the language of Solomon, the mountains before rising must have first "settled" in the sea. The psalmist saw that God spread out the earth upon the waters, that he founded it upon the sea, and established it upon the floods. Job saw that the very corner foundation stone was made to sink. Moses rushes the deposits all into the evening of the third day, to the appearance of dry land. "And God said, Let the waters under the heaven (the new firmament) be gathered together unto one place, and let the dry land appear." Here are eighty miles deposit made in the sea, all of which came out of the air and water. During this time Moses says, "The Lord God had not caused it to rain on the Earth." "The plant and the herb of the field had not yet been made."

3. With such a pole-pointing, only one end

of the Earth could receive deposits, and the sun could take hold only of that end. Job alludes to a convulsion in which "The proud were shaken out of it, that the sun might take hold of both ends of it." 38: 13. Before this change, "The waters were covered as with a stone, and the deep was frozen." Deposits are now made from the air at the rate of four hundredths of an inch in a year. At this rate it would take, possibly, eighty million of years to reach the surface. Our globe was never a rainless planet.

4. The allusion to its not having rained on the earth, is an allusion that the deposits were yet beneath the waters, until the "dry land appeared." Following the changes of organic life up to the time of the deposits of the "Old Red Sand Stone," where God spread out the waving forests of the Devonian plain, he had found the fit contrast to the inorganic deposit of the evening.

5. The climate of the first part of the third day was chilled to the temperature of melting ice. The latter part was torrid. The equator marked the bound between perpetual sunlight and perpetual darkness. Along this equator a line of open sea would beat against a line of perpetual ice. The spray and vapor from the open sea, going south, would be rapidly converted into snow and ice, increasing the thickness and gravity of the ice. At length, breaking by its own weight, it would drift into the open sea. During the first part of this day, there was nothing to prevent this drift-ice finding its way to the very north pole. The sea, therefore, would be at a temperature of 32 degrees Fahr.

6. After the deposits neared the top, and before dry land appeared, the larger bergs were kept back, and tropical waters resulted, followed by the same climate upon the dry land, as it appeared. At the close of this day there existed many kinds of water animals, but they did not

form a suitable contrast with what Moses had to start with, as evening. These were inorganic deposits from the air. The organic deposits of the Devonian forests are the morning. "And the earth brought forth the tree, yielding fruit, whose seed was in itself (cryptogams) after his kind." 'And the evening and the morning were the third day.'

SECTION 4.

THE WORK OF THE FOURTH DAY.

UP to the Carboniferous time of deposit, the air had never been sufficiently cleared of its dark clouds of deadly gases, to admit sunshine on the earth. Vegetation had not reached a climax. No mention is to be made of animals existing, until this climax is reached. It will be reached when the sun shall have taken off the "swaddling band" of her childhood, and depositing the same, as coal, in the earth, shall give the earth a clothing of flowers. Non-flowering plants are evening,

the contrast will be the flowering plant in the sunshine.

1. By figure of metonymy, again he traced the progress of deposits through the sun, which God had made, with the moon and stars. The labor of the sun to clear the atmosphere, calling for immediate help of God, was long and persevering. Poetically, the narrative is enriched by this elegant figure, in putting cause for effect. As now from the earth for the first time he beholds the clear sunlight, he doubtless is reminded, that in mentioning the creation of this center of attraction in our system, he had given a name which indicated a specific property of the sun, viz, light; whereas it also had heat and force.

Now, calling it by a generic name, and remembering also that in describing the origin of Earth no mention had been made of the rest of the heavens, he incidentally mentions that God made them all, without attempting the individual history of either. His mission is to trace in progress

the contrasting changes of God's work in the Earth. And to his text he adheres.

Since the sun is the only source of permanent natural light within our system, and since Moses had made light to contrast with the darkness of chaos in the first day, it seems strange that any intelligent reader should understand him to speak of the bringing into existence of the great orb of light the fourth day. Shining in on the earth is all that is noted.

2. Sir Charles Lyell, the great English geologist, gives us the process by which sunlight was let in on the earth during the carboniferous age. This age corresponds to the fourth day of Moses. The dark band of gases intercepted the clear rays of sunlight, so that a somber hue of gray covered the earth, as in twilight. Vegetation must slowly do the work of depositing these gases, until diminished so that fire, or flame, could be supported. Such was the resinous and oily nature of all vegetation of that period, that a

stroke of lightning might set the world on fire, to burn for six months or a year. Some of the carbonated growth of the forests would be hidden away beyond the reach of flame. In this condition it would ripen into coal. But enough carbonic acid would escape, to intercept the clear rays of the sun, and another period of deposit would set in. In the Nova Scotia coal mines, alone, he had noticed one hundred of these burnings, implying a long period of deposit between each. It is thus the long ages struggled, to enable the sun to kiss the vegetation into bloom. The widely scattered coal beds of this period show that the whole earth was covered with a tropical forest. Large veins of this coal are found in Greenland, Nova Zembla Island, Tasmania, and the Melville Islands.

3. We have had subsequent periods of deposits of carbon in forests that produced coal. But the coal formed since that age is generally soft. One short coal period occurred this side

the great upheavals of mountains. This coal is found on the Pacific Coast, and yields only forty-four per cent. carbon. The best coal had its origin before the flowers. In Moses' prophetic vision of the work of the sun, he grasped certain points in the future of astronomy.

4. He noticed the use an enlightened civilization would make of the motions of the heavens. He noticed the Zodiac divided into signs, and time measured by three clocks of nature, called "days, years, and seasons." The season clock is by the precession of the equinoxes, consuming 25,000 years in a circle. Michael, the archangel, used this term in explanation of the "long time" that would elapse before the final end. With the clear sunlight, the climax of vegetation was reached. Two inorganic mornings and two vegetable mornings have been noted; two animal mornings remain to finish the work of God with matter.

"And the evening and the morning were the fourth day."

SECTION 5.

THE WORK OF THE FIFTH DAY.

1. THE contrasts of evening and morning of the fifth day are found in the sea. The contrasts of the sixth upon the land. The evening of the fifth began with the "moving things of the sea," ending with the "whale." With the exception of the first day, the fifth must have extended through a much longer time than all the others put together. The contrast between moving diatoms of the Gneiss rock, and the whale of the Miocene in size, is apparent. But the contrast is in a higher sense. All this long period to the Tertiary rock, gave only egg-producing animals. This was not high enough in the scale of animal existence to have the next evening, which must begin with the fifth morning, to form a contrast with man. The type of the highest of mammals must be reached, and that in the sea. This was found in the whale. Beside, the whale is intimate-

ly connected with the great geological change caused by the drift period. Here ninety-seven per cent of the previous animals of the earth became extinct. Following the drift, there came into existence nearly all the animals that now roam the Earth. This day, then, covers all the changes of the fourth, and most of the third; and of course has nothing to do with a measure of time, or order of deposits.

2. For aught we now know, the starting of animal life was in the time of the deposit of the Gneiss rock—here we find shells. From here onward was heard the voice of God, “Let the waters bring forth abundantly the moving creature that hath life.” This life, at first, was very simple; and small as simple. It required only the nourishment derived from water for its support. No animals of any considerable size are found until vegetables were furnished for their food. Those of the earlier period had to be protected from the carbonated waters by a bony

covering or ivory scales. Scorpions, spiders, lizards and frogs might breathe the carbonic acid of the fourth day; but no warm-blooded animals are known to have existed until after the sun shone in upon the Earth, as a fixture.

3. Here Moses noticed the existence of "fowls of the air." In the ichthyosaurus he might have found the contrast in size, but not in type.

4. He passed on down to the "whale as morning." After the Carboniferous deposits, the tracks of birds and reptiles are found in the ancient sands of the shores of the waters. Gigantic saurians and voracious fish ruled the sea for untold ages; but as they all were oviporous, or egg-producing, they are ranked in the evening. Reaching the type of the ruling land animals of the next day, Moses pronounced the morning with the whale.

5. It remains a mystery, how any one knowing anything about geology can find fault with

the order of the Mosaic record. So far as Moses has mentioned order, it is: moving animals in the sea, air animals, mammals. The order of science may be more explicit. Substantially it is protozoones, mollusks, radiates, articulates, vertebrates, mammals. There is no conflict, nor even deficiency. The term used by Moses is designedly generic; covering all moving creatures of the waters. The history of the rocks is in exact accord with the testimony of Moses; and both verify common observation, viz: each kind of animal produces its own kind.

6. The poise of the Earth to the sun was such as to give an ice-flow, whenever for any cause a great subsidence of the hemisphere took place.

The largest happened when the last and highest mountains were raised. As a consequence, the period called the Drift followed, when the reindeer made his home in the vicinity of England. Most tropical animals were destroyed.

A new race of placental mammals was to be introduced; the type of which is found in the sea, able to endure the revolutions of the Drift. Hence the wisdom displayed in selecting this animal, as a representative of morning.

7. The Scripture claim of special providence is in harmony with the defence of the same in science. Providence is general, when wrought out in due course of law; special, when it is a power added to nature. Special providence is not a rule of action, but the exception. Science claims this much in nature. I refer to the admissions of such men as Huxley, Tyndal and Darwin. Prof. Huxley says: "No scientist of the present day will venture the affirmation, that matter is eternal. Should one be found, his brethren would rise up in court, and object to his testimony, as he would be incompetent to testify." If not eternal, it was created by God's special power. Prof. Darwin says: "Some of our brethren have tried by experiments, to prove

spontaneous life from inorganic matter, but they have failed, and, from the nature of the case, they must ever fail." "There must have been a first life, I think five forms, I know there must have been one from which life could proceed." Special providence again is needed to start life. The same principle would apply as many times as the earth may have lost its living forms. Sir Charles Lyell would assure you that the fires of the Carboniferous period alone deprived the earth of all land and fresh water animals, plants and seeds, at least one hundred times. Yet it was supplied between each. Prof. Tyndal says, "Do you ask me 'May inert matter rise up and live?' I answer directly, 'No, life must have been created.'" Here then in science are the Deists' endorsements of exactly what every enlightened Christian believes in reference to the covenant of salvation. This is the doctrine of the science of today, viz: that "God made all matter at one and the same time; that by special

power he put all parts in motion at one and the same time ; that his eye is over all, ready to supply what is needed above what the machinery of nature can perform." Carry out this principle, and you have the manifestations of the true God in Jesus, and every Bible theory of the New Covenant.

SECTION 6.

THE WORK OF THE SIXTH DAY.

1. BEASTS, with a perishable spirit, are the evening of the sixth day. Man without an immortal spirit is the morning. Here we shall find the grandest contrast of any of the six days. Historic man is the morning, extending to the end of God's work, in reference to matter.

Duration ceases to be measured at the close of this day. Solomon alludes to the contrasts found in this day. "Who knoweth the spirit of the beast, that goeth downward ; and the spirit of man, that goeth upward?" For a long time

these animals, without a spirit to be preserved, ruled the earth as kings, "without any one to till the soil." Jungles and forests, mountains and dales, lakes and caves, alike afford no facts inconsistent with this statement of Moses. Should science ever confirm the existence of a race prehistoric, resembling man, it will doubtless be shown that they were not a contrast with beasts, and have no connection with our race.

2. Our race undoubtedly sprang from Adam less than six thousand years ago. Prehistoric man, like evolution, rests upon the hypotheses of men, always unsafe; but in this case unsupported by a well-attested fact. The former may claim the intuitions of that class of persons ever looking up the genealogy of Cain's wife; the latter has the common sense of the average man against him. Upon this subject, as upon every other upon which the Bible pretends to speak, "If they speak not according to what is written, it is because there is no truth in them." By spec-

ial revelation man saw that by a special providence of God, he caused the ground to become the mother of man ; and from this creation proceeded, by the same special providence, a helpmeet for man. She has ever proved herself the great help in the march of civilization. Facts show that man gloriously contrasts with the highest types going before.

3. It is not yet a settled question that the air, for any number of thousands of years before Adam, was sufficiently cleared of deadly gases as to admit of human breathing. On looking upon the coal veins of Pennsylvania, we need no argument to show that man could not have breathed the carbon that hung in the air of that period of deposit. The mute faces of the coal beds of Ohio forbid man's existence then, although these succeed the former by millions of years. Geologists agree that the Pacific deposits of coal have been this side of the great upheavals of the large mountains. If man had been living then, the

carbonic acid of the air would have strangled the life out of him. When we take into consideration how very slowly a continent rises out of the ocean, and that both the Atlantic and Pacific coasts had to rise over five thousand feet to expose their fruitful valleys; and also how very long a period had to elapse after, before the air would be laid into the ground by vegetation, we shall readily see the force of this proposition, viz: The very calculations which science has given us bring the deadly gases very near to the time given in Genesis for the creation of our present race.

The volcanic periods of the world's history argue against the early habitation of the Earth by man. Every volcano is a vent for the escape of deadly gases, caused by the consumption of oils and coal in the Earth's strata. The enormous quantity of coal consumed is but faintly indicated by the amount of ashes thrown out. The mountains give evidence of recent volcanic dis-

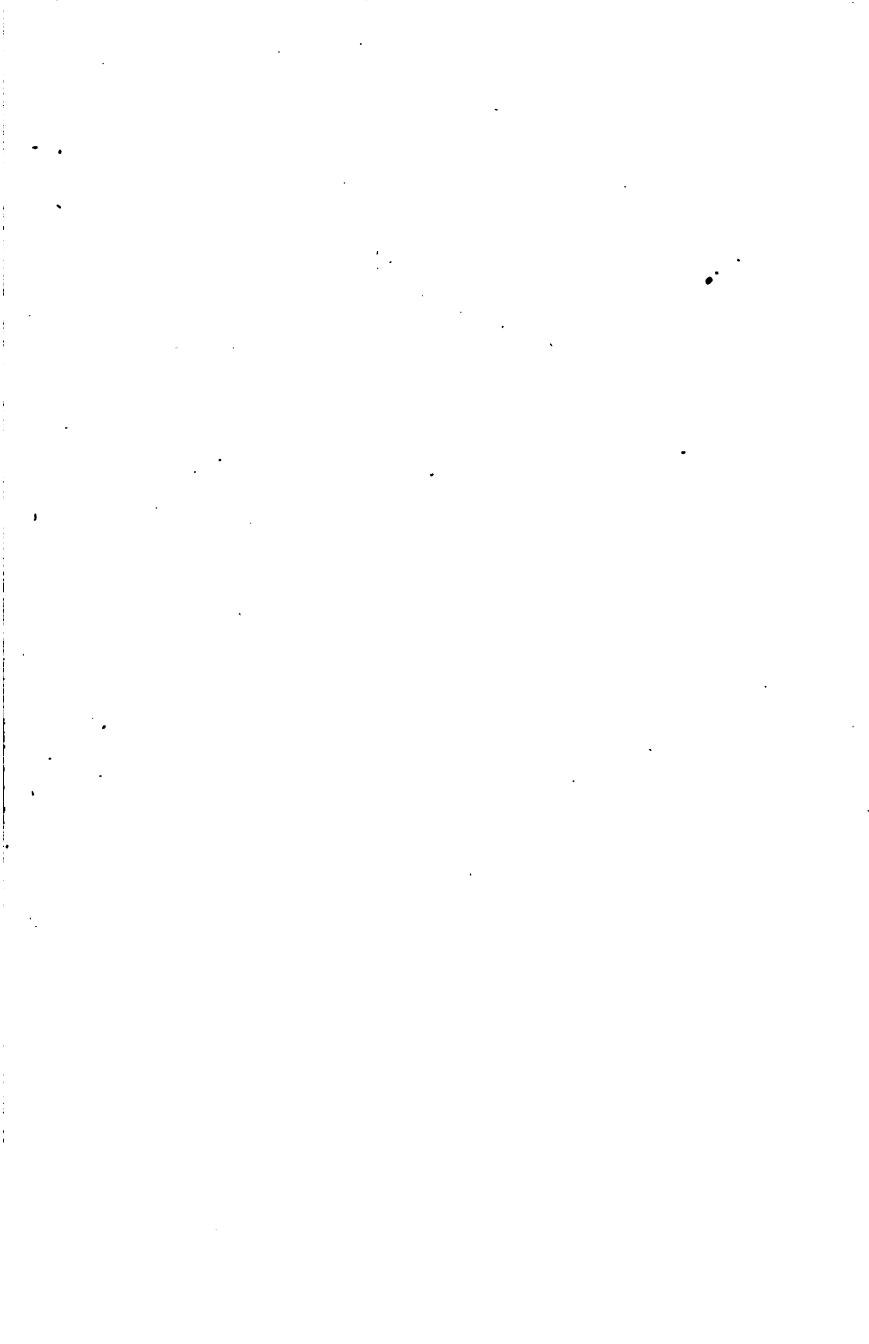
turbance, greatly exceeding the present. Ancient river beds are found into whose channels the debris of the mountains had been dragged by the great ice-flow, until leveled over to the height of several thousand feet ; then the volcanic era covered, in places, this drift fifty or sixty feet thick ; thus preserving the silt from being dragged away, as the waters receded. The fact that we had a coal period following, shows that man in the volcanic period, and for thousands of years after, could not breathe the air. Our active volcanoes are reduced to about three hundred. Still the air is polluted in many ways. Smelting works, forges and gas plants all pollute the air. Every cesspool, every whiff of burning tobacco, adds its quota to air-corrupting. Each year contributes to deposit a portion of the remaining carbon of the air. Rich valleys of warm zones are not yet healthy. We still go to the mountains for invigorating air.

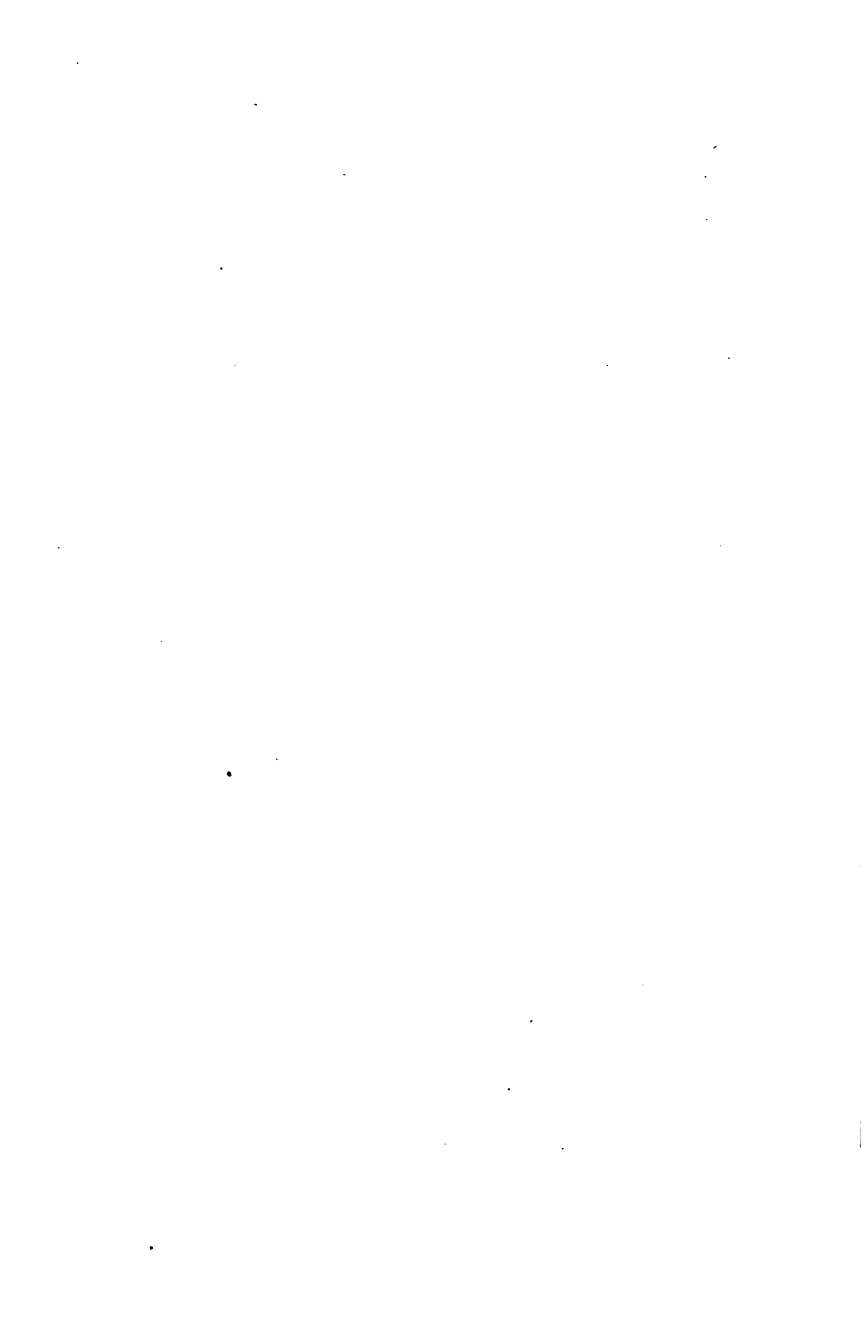
5. Evidently, we have not yet reached the

climax of good breathing air. Nature discourages the thought, that man could have continued his race, in any time, much previous to that given for the creating of Adam. The morning of the sixth day is in progress. Prophecy presents the coming man greatly improved over the present. "My Father worketh hitherto, and I work."

6. This morning ends, when the angel stands one foot upon the land, his right hung over the sea, with his left hand pointing to heaven, proclaiming that time shall be no longer. "And God rested from all his labor."







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